



CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

ON THE

Sanitary Condition of the City

DURING THE YEAR

1925.



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Members of Council who served on the

HEALTH COMMITTEE.

Councillor R. W. SIMPSON, M.B., Ch.B., Chairman.

Councillor DAVID ADAMS, J.P., Vice-Chairman.

The Lord Mayor (Councillor ANTHONY OATES, J.P.)

Alderman ADAM WILSON, J.P., F.R.C.S.

„ J. J. FORSTER, J.P.

„ A. SCOTT, J.P.

„ RICHARD MAYNE, J.P.

„ ALEX. WILKIE, C.H., J.P.

„ JOHN PROCTOR, J.P.

„ WALTER LEE, J.P.

Councillor W. A. ALLAN.

Councillor W. R. WALLACE.

„ G. D. NEWTON, L.R.C.P.

„ W. V. LONGFIELD.

„ W. H. WOODMAN.

„ JOHN E. SCANLAN, J.P.

„ R. J. THOMPSON, J.P.
(Sheriff).

„ JOHN BARKER.

„ J. C. DOYLE.

„ JAMES SMITH.

„ WALTER THOMPSON.

„ JOHN CHAPMAN, J.P.

„ CATHERINE AULD.

„ EDWARD MIDDLETON.

„ H. BENSON, J.P.

„ GEO. DIXON.

„ W. C. PERCIVAL.

MATERNITY AND CHILD WELFARE COMMITTEE.

*Councillor JOHN CHAPMAN, J.P., Chairman.

†Mrs. H. BRACKENBURY, J.P., Vice-Chairman.

*Alderman ADAM WILSON, J.P., F.R.C.S.

*Alderman WALTER LEE, J.P.

*Councillor ANTHONY OATES, J.P. (Lord Mayor).

‡Councillor J. G. NIXON.

*Councillor JAMES SMITH.

* „ W. A. ALLAN.

‡ „ W. BARKER ELLIS, J.P.

* „ G. D. NEWTON, L.R.C.P.

* „ EDWARD MIDDLETON.

* „ W. H. WOODMAN.

†Mrs. J. L. GIBBIN, J.P.

* „ R. W. SIMPSON, M.B., Ch.B.

†Mrs. H. LOUIS.

* „ J. C. DOYLE.

†Dr. R. P. R. LYLE.

‡ „ E. C. DOUGHERTY.

†Mrs. J. T. PLATT.

* „ WALTER THOMPSON.

†Miss G. ROWELL.

* „ CATHERINE AULD.

†Dr. MONA MACNAUGHTON.

‡ „ H. LOWREY.

†Mr. GLADSTONE WALKER.

* „ JOHN BARKER.

†Mrs. A. J. SHORTT.

* „ DAVID ADAMS, J.P.

†Mrs. A. A. McCUTCHEON.

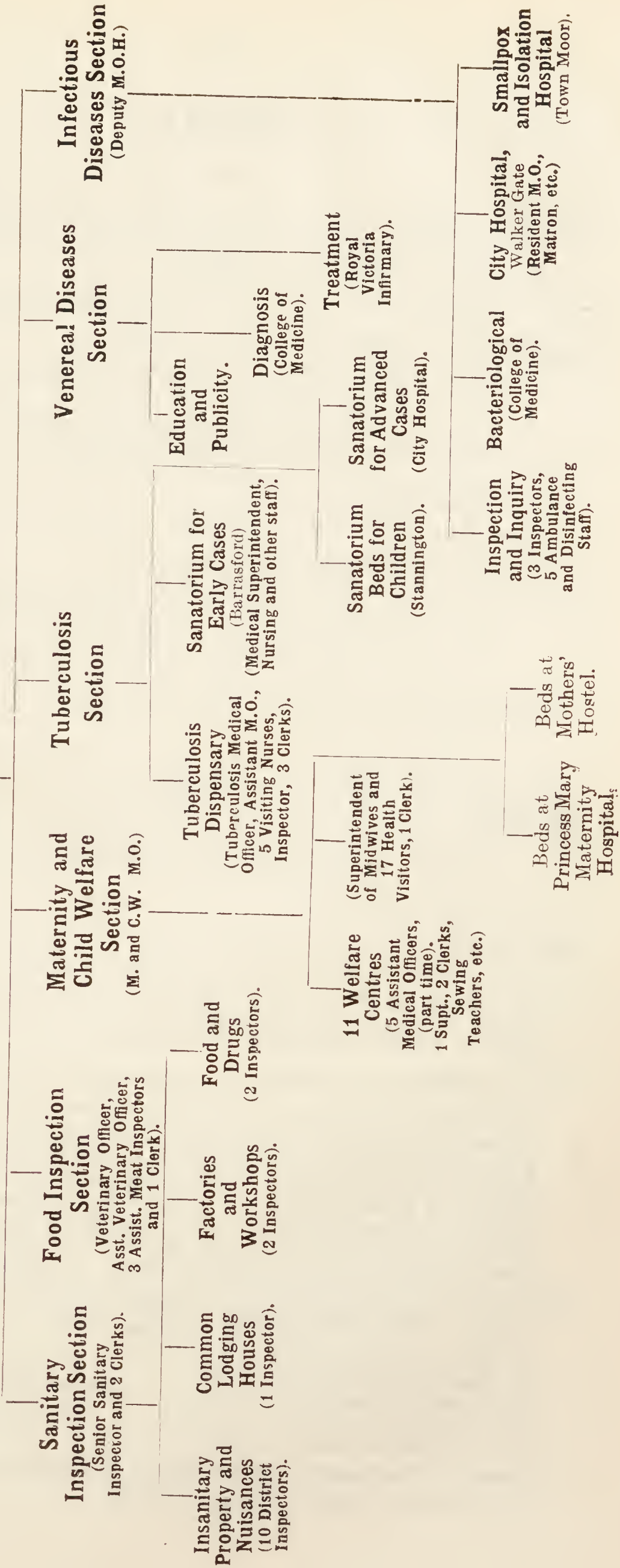
* Member of the Health Committee.

† Co-opted member.

‡ Appointed by City Council.

Table showing the various Sections of the Health Committee's work which is under the direct charge of the Medical Officer of Health.

Medical Officer of Health.
Health Department
(Deputy Medical Officer of Health and 8 Clerks.)



STAFF.

HAROLD KERR, O.B.E., M.A., M.D., Ch.B., D.P.H., Medical Officer of Health and Medical Superintendent of the City Hospitals for Infectious Diseases.

T. N. V. POTTS, M.D., B.S., B.HY., D.P.H., Deputy Medical Officer of Health.

CHRISTOPHER RAIMES, Senior Sanitary Inspector.

JAS. McNICHOL, appointed Chief Assistant Inspector and Assistant Workshops Inspector, November.

WM. CATTLIFF, Chief Assistant Inspector and Assistant Inspector under the Food and Drugs Acts (retired November).

JAS. HUNTER, appointed Assistant Inspector under the Food and Drugs Acts, November.

ADAM FLOCKHART, Assistant Inspector under the Food and Drugs Acts.

ISAAC CLARK, Assistant Workshops Inspector.

E. W. SCOTT (died November), **W. F. BACON**, **JAS. McKENDRY**, **RICHARD REDPATH** (resigned April), **L. W. JOHNSON**, **THOS. HESLOP**, **WM. GRAY**, **ARTHUR ROWE**, **WM. E. PERKINS**, **W. COCKBURN**, **J. BROWN**, **W. STEWART** (appointed April), District Inspectors.

GEORGE HARDIE, Assistant Inspector of Common Lodging Houses.

WM. BEAN, **C. R. CRAIG**, **A. KIRSOP** (appointed December), Infectious Disease Inspectors.

JAS. ROBSON, **JAS. BRUCE**, **JNO. R. CRAGIE**, **J. W. ROBSON**, **THOS. MOORE**, Ambulance Drivers and Disinfectors.

WM. MILNE, ***GEO. CUTHBERTSON**, ***ALFRED HEDLEY**, M.S.M., ***ALEC M. WALKER**, **JOS. GILHESPY**, **H. G. OLIVER**, **F. T. H. BELL**, **ROBT. LAWSON**, **D. MACPHERSON**, **IVY GOODHALL** (Typist), Clerks in the Health Department.

(Those marked * hold the Sanitary Inspector's Certificate of the Royal Sanitary Institute).

THOS. PARKER, F.R.C.V.S., Veterinary Officer and Inspector of Provisions.

F. A. DAVIDSON, B.Sc., M.R.C.V.S., Assistant Veterinary Inspector.

JAS. M. ANDERSON, **D. HOGG** (resigned July), **R. G. CONNELLY** (resigned April), **G. H. SMITH** (appointed July), **E. H. JOHNSON** (appointed August), Assistant Inspectors of Provisions. ***NORMAN DICKSON**, Clerk.

A. F. G. SPINKS, M.D., Maternity and Child Welfare Medical Officer.

a **GEORGINA B. CAMERON**, Chief Health Visitor and Supt. of Midwives.

f **CATHERINE M. THEXTON**, **c** **MARY LEVINE** (resigned May), **b** **MARIAN MOODY**, **c** **LIZZIE ISA PRITCHARD**, **c** **LOUISE SHELL**, **b** **MAISIE L. HOPPER**, **d** **FLORENCE MARTHA HATFIELD**, **e** **MARY F. HARTWELL**, **b** **MARY I. WIGHAM**, **d** **HILDA MORTON**, **d** **NORAH B. WILLSON**, **d** **L. GORDON** (resigned December), **b** **R. JOHNSON** (resigned December), **d** **M. T. SMITHSON** (appointed June), **d** **E. JOHNSON** (appointed June), **d** **F. M. MEDD** (appointed June), **d** **N. E. CARR** (appointed August), Health Visitors. **EDITH RODGERS**, Clerk.

(Qualifications of those marked **a** C.M.B., General and Fever Nursing and R.S.I. Certificates. **b** C.M.B., General Nursing and R.S.I. **c** C.M.B. and R.S.I. **d** C.M.B. and General Nursing. **e** C.M.B., General and Fever Nursing. **f** C.M.B., Fever Nursing and R.S.I.)

H. GLEN DAVISON, M.D.

L. MABEL R. CAMPBELL, M.B., Ch.B.

H. HARVEY EVERS, M.B., F.R.C.S.

JAS. C. SPENCE, M.D., B.S., M.R.C.P.

F. J. NATTRASS, M.D., B.S., M.R.C.P.

} Assistant Medical Officers (part time), Welfare Centres.

ANNIE G. BAINBRIDGE, Superintendent of Welfare Centres.

AMY RODGERS, **GLADYS PATTISON**, Clerks.

G. HURRELL, M.D., B.S., B.Hy., D.P.H., Tuberculosis Medical Officer (appointed May).

J. A. CHARLES, M.B., B.S., D.P.H., Assistant Tuberculosis Medical Officer (appointed May).

WM. H. DICKINSON, O.B.E., M.D., M.R.C.P., Ch.B., D.P.H., Tuberculosis Medical Officer (part time only from May).

a MARGARET L. HUTCHINSON (resigned October), **c** CONSTANCE M. BAYNE, **d** ANNIE BOOTH, **a** W. E. DALE, **b** J. P. KENMIR, **e** E. FARBRIDGE (appointed October), Tuberculosis Visiting Nurses.

(Qualifications of those marked **a** General Nursing. **b** General Nursing, C.M.B. and R.S.I. **c** General Nursing and Health Visitors and School Nurses Certificates of R.S.I. **d** Fever Nursing. **e** General Nursing and C.M.B.)

E. JOICEY (appointed December), Assistant Inspector.

GEORGE MAGNAY, **W. MCGILLAN** (resigned July), **PAMELA E. THORATT**, **G. GILLENDER** (appointed July), Clerks.

C. G. R. GOODWIN, M.R.C.S., L.R.C.P., Medical Supt., Barrasford Sanatorium.

FRANCES BAGULEY, Matron; Sister, Nurses, Servants.

I. McLACHLAN, M.B., B.S., B. Hy., D.P.H. Resident Medical Assistant. **NEIL MACLAY**, M.B., F.R.C.S., Consulting Oto-rhinologist, City Hospitals for Infectious Diseases.

H. E. COOK, Matron, City Hospitals for Infectious Diseases.

JESSIE LAING, Assistant Matron. Sisters, Nurses, Servants.

M. I. STEPHENSON (to September), **M. BURRILL** (from September), Dispenser.

JAS. COCKBURN, Engineer. **GEO. COCKBURN**, Assistant Engineer.

HERBERT BLACKTIN, **FRANK HARRINGTON**, Lodge Keepers, City Hospital, Walker Gate. Firemen, Porters, Gardeners, Joiner, and Handyman.

JOS. W. and JANE STEPHENSON, **JAS. and MARY GREGAN**, Caretakers at Smallpox and Isolation Hospitals.

**To Councillor R. W. SIMPSON, M.B., Ch.B.,
etc., Chairman of the Health Committee of
the Corporation of Newcastle-upon-Tyne.**

SIR,

On the instruction of the Ministry of Health, the present is to be a survey report for the five years 1921-1925, the reports issued for each of the years 1921-1924 having been relatively limited in scope. As, however, it has been more convenient, and undoubtedly more useful, to give a report in full for each year, the present one will contain, to some extent, repetitions of information previously supplied.

This five year period coincides with the slackening of trade and the ultimate severe depression which followed upon the years of false prosperity immediately following the great war. The "cost of living figure" was calculated as being 176 per cent. (its maximum) above that of 1914 in November, 1920, and at the end of 1925 this figure had fallen to 77 per cent. above the pre-war rate.

Unemployment has varied from about 25,000 to 30,000, following the great coal strike of 1921, to 19,000 after the boilermakers' lockout in 1923, since when it has remained at approximately 15,000. At the beginning of 1925 12,800 men and 1,800 women were idle, and at the end of the year these figures were 14,000 men and 1,400 women. Again the calls upon public assistance have been very heavy, unemployment benefit under the National Health Insurance Act (the "dole") being the mainstay of practically all the workless. The expendi-

ture upon relief by the Poor Law Guardians was £290,733, as compared with £371,859 for 1924, £428,921 in 1923, £308,323 in 1922, and £140,882 in 1921. There can be no question that times of industrial depression are robbed of their greatest terror—starvation, with a great deal of ill-health and disease, by these means. It is more than questionable, however, if the present method of granting this relief is a wise one, since under circumstances such as we are experiencing at present, namely, long continuance of the hard times, there are very many people in whom a habit of idleness is becoming ingrained as the result of the regular receipt of the necessities of life without exertion on their part. The proverbial association between “idle hands” and “mischief” is as true to-day as ever, and it is greatly feared that the result of long continued idleness is proving detrimental to a large section of the nation.

The last half-dozen years have been the healthiest the City has ever known, 1923 having had the lowest death rate on record, viz., 12·9 deaths per thousand population, 1924 13·5, and 1925 13·6. The incidence of tuberculosis, 2·9 cases per thousand population, was slightly higher than for the previous four years, while the infantile mortality rate, only 88 deaths per thousand births, was a record.

The Registrar General estimated the **POPULATION** at the beginning of the year to be 286,300, as compared with the census figure (1921) of 278,400.

The number of **MARRIAGES** during the years 1921-1925 respectively was 2,567, 2,234, 2,159, 2,329, and 2,299.

The **BIRTH RATE** continues to decline, having been from 1921-1925 26·2, 24·8, 22·4, 22·2, and 21·6 per thousand population, in each year respectively. That for the whole country was only 18·3 last year.

The **GENERAL DEATH RATE** was 13·6 deaths per thousand population in 1925, as compared with 14·1, 14·2, 12·9 and 13·5 for the years 1921-1924 respectively. As usual, it is above that (12·2) for the 105 great towns, and this is probably ascribable to the high degree of overcrowding that exists, and to the prevalence of bad trade and consequent unemployment, which are particularly felt in this part of the country.

The *Natural Increase* of population (births minus deaths) amounted to 2,307.

Climatically the year 1925 was generally a mild one until late summer, when comparatively warm weather set in. The last two months of the year, however, were particularly severe, with heavy snow, continued frost and fog. The increase in temperature in summer came too late to result in prevalence of summer diarrhœa, the germ proliferation having been thus prevented.

There was more sunshine than in 1924, but as always, considerably less than was experienced in the surrounding country districts. The records kept by Professor Stroud at Armstrong College, and by Professor D. A. Gilchrist at Cockle Park, a few miles north of Morpeth, have been kindly supplied, and indicate that while only 924 hours of sunshine were recorded at Armstrong College, 1,461 occurred at Cockle Park. One of the conditions most inimical to general fitness that we town-dwellers, particularly in such an industrial area

as this, have to suffer is the depression consequent upon the long deprivations of sunshine and existence under a constant half-light. Small wonder that the installation of ultra-violet light lamps has so caught the popular imagination, when the real thing is not available, the actinic rays being largely prevented from reaching us by the impurities in the atmosphere.

Since the beginning of the year two additional gauges have been installed for the estimation of atmospheric pollution in Newcastle. That in the court of the Keelmen's Hospital, City Road, indicated a total fall of impurities in this mainly industrial part of the City equivalent to 996 tons per square mile per annum, which is the heaviest deposit recorded since the gauge was first set up in 1914. The previous highest was in 1923, when it was equivalent to 832 tons per square mile per annum. In fairness it must be stated that owing to their direction the prevailing winds carry much of the smoke from the south side of the river to this part of Newcastle, so that this gauge measures what we experience rather than the pollution that we ourselves cause. The second gauge is situated in the Westgate Cemetery, in the middle of a densely populated residential district of the City. This recorded a total fall equivalent to 435 tons per square mile. The third gauge, in the grounds of the Smallpox Hospital, away up on the Town Moor, showed the equivalent of 251 tons per square mile.

A broad analysis of the causes of death indicates that diseases of the **Circulatory System** constitute a steadily growing class, and in 1925 caused the largest number of deaths.

Respiratory Diseases, which usually slightly exceed the foregoing, in 1925 took slightly less toll.

Diseases of the Nervous System show further diminution in the mortality list, the deaths from these causes being the second lowest yet recorded.

Diseases of the **Digestive System**, although resulting in rather more fatalities than in the previous three years, are still well below those of the immediate pre-war and war time years.

Cancer unfortunately continues to cause more deaths each succeeding year, and these in 1925 amounted to 374, or rather more than one-tenth of the total deaths in the City. During the last five years the mortality has risen steadily from 302. Of the 374 cases, in 106 the disease affected the stomach or liver, and in 80 the intestines, that is to say, in about half the part affected was the digestive tract; in 99 cases the part involved was the female genital organs or breast; and in 24 cases some part of the mouth. 184 deaths occurred in males and 190 in females. The average age at death was 61 for men and 58 for women.

The amount of research work being carried on with regard to this disease must be vast. In the summer of 1925 an announcement was published in the Medical Press of the discovery of a causal organism of very minute size, and this has been accepted by the profession. Very much, however, has still to be found out before either a cure or a preventive can be evolved. Chronic local irritation is known to be a frequent preliminary to a cancerous growth, and the cause of any such should be immediately removed whenever noticed. At present by far the best chance for the patient is the earliest possible intervention of the surgeon immediately a lump

of any description is discovered in the breast or any other part of the body, or any unusual discharge in a woman at or about the change of life.

In view of the introduction of *insulin* for treatment of **Diabetes** in the latter half of 1923, it is of interest to note that the deaths from that disease since 1921 have been 29, 28, 38, 26, and in 1925 31. It is evident that insulin cannot be regarded as a specific cure for the disease. It undoubtedly supplements the defective function of the body, but requires continuous administration. Perhaps with greater knowledge of the preparation and its use better results may yet be obtained. It certainly has proved a godsend to very many sufferers.

EPIDEMIC AND INFECTIOUS DISEASE incidence continued to be low, with the exception of measles.

Measles occurred in epidemic form. There were 6,030 cases, just about twice the number in 1924, with 114 deaths. Compulsory notification still holds in Newcastle, and much of the time of Health Visitors was taken up by systematic visitation of infected houses, and there can be little doubt that the relatively low fatality is largely due to this. Mothers are advised as to the care of cases, and where a doctor has not been obtained are urged to call one in; by insistence upon the treatment of measles as the serious disease it is, very many lives have been saved.

Whooping Cough deaths fluctuate considerably in number each year, varying from 119 in 1918 to 9 in 1919, since when they have numbered 45, 58, 36, 78, 29 and in 1925 76.

Typhus did not appear at all.

The most serious feature of the year was the definite establishment of **Smallpox**. Of this disease there were 81 cases, and only one death. In 1924, when the present epidemic first appeared in Newcastle, there were five cases. It is of the same very mild type that is generally prevalent, so that it does not carry the dread that the ordinary more severe type inspires. There was little difficulty in controlling each outbreak within the City, and very seldom was there a recurrence from a previous case. Unfortunately, little attempt appears to have been made in some of the surrounding areas to cope with the disease, and in almost every instance infection was definitely traced to these districts. Of however little importance the occurrence of smallpox may be to a small self-contained community, to a great sea-port like Newcastle, with its world-wide communications, an epidemic of this foul disease would be of the utmost gravity. The measures adopted here include the immediate relegation of the patient to the Smallpox Hospital, and in some instances the removal of the other members of the household to the Isolation Hospital to permit of efficient disinfection of the home, and immediate vaccination of every contact discoverable. To the credit of our citizens, as also of the Health Department Inspectors concerned, very rarely indeed has a contact refused to be vaccinated. Occasionally where a patient has been employed in a factory, or large business premises, it was felt to be advisable to vaccinate all hands, and with the approval of the firm, the Public Vaccinator visited the works for the purpose. In every case contacts are dealt with promptly by the Public Vaccinator, no vaccinations, or only an occasional one, being performed by the staff of the Health Department.

Some difficulty arose owing to objection of the Guardians to pay for vaccinations of persons not resident in the district of the Public Vaccinator concerned, even although the home address was within the Newcastle-upon-Tyne Union, but this objection was over-ruled by the Ministry of Health. As regards persons resident outside the Union, the Health Committee is now shouldering the responsibility for payment, since in all probability these persons, if referred to their own districts, would evade the protection which is so necessary for Newcastle.

Infantile vaccinations, which in 1923 amounted to 70 per cent. of all births, fell in 1924 to 61 per cent., and rose to 64 per cent. in 1925. This rate is still very much above that for surrounding districts, and indeed for the country as a whole.

There were 15 cases of **Typhoid Fever**, with 3 deaths. Four patients probably contracted their infection from "imported" cases at the Royal Victoria Infirmary, but the source of infection of others could not be traced.

Summer Diarrhœa, as stated previously, was of low incidence ; during the last five years the deaths numbered 159, 73, 102, 81, and in 1925 86.

Scarlet Fever showed a substantial increase in cases, and reached its periodic crest, but this did not attain the height of previous crests in 1920-1921, nor 1912-1915, nor was the case mortality as high.

The amount of **Diphtheria** was comparatively trifling.

There were no known cases of **Food Poisoning**.

There were six cases of **Acute Poliomyelitis**, or infantile paralysis. All of these recovered, but one was left with some permanent paralysis. There were two cases of **Cerebro-Spinal Fever**, both of whom recovered, and 39 of **Encephalitis Lethargica** (so-called "sleepy sickness"), of whom 14 died. The incidence of these was mainly in the months of February to May.

As previously, overcrowding and bad economic conditions appeared to play their part in predisposing to encephalitis lethargica, but only in three cases was there definite evidence that the disease had been transmitted from one sufferer to another member of the same family. This disease only received general recognition as a definite clinical entity about ten years ago, and the first case notified in Newcastle was in 1919. In 1920 there were 8 cases, in 1921 18, and during the succeeding years the notifications numbered 4, 4, 124 and 47 respectively. 1924 was evidently an epidemic year, while 1925 showed much diminished prevalence, a diminution that has been more definite during 1926, there being 27 cases so far, including 8 from outside areas.

Altogether 206 cases from Newcastle and from outside sources have been treated in Newcastle between 1919 and 1925. Of these 68 have died, 60 were left with mental or permanent nervous impairment, and 64 recovered.

The disease affects both sexes and all ages indiscriminately. In addition to the 39 Newcastle residents notified in 1925, there were 8 other cases, for the most part in the Royal Victoria Infirmary, belonging to outside areas, and of the total 47, 28 were admitted to the City Hospital. Encephalitis Lethargica is undoubtedly one of the most terrible ailments to which

mankind is liable, since its consequences, where the patient survives, are of so grave a nature, and include mental impairment, melancholia, insomnia and headache, vicious temperament, and too frequently a complete upset of the moral disposition, so that for many at least death would be a happier termination, as it would undoubtedly be for their friends.

Reference is made to **Tuberculosis** under a special heading subsequently.

Hospitals for Infectious Diseases.—The City Hospital, Walker Gate, with its approximate 300 beds, was in full occupation throughout the year, and admitted 1,711 cases of fever, together with 336 cases of pulmonary tuberculosis. The latter occupied not only the special tuberculosis annexe, but also one of the more isolated fever pavilions of 30 beds.

The Smallpox and Isolation Hospitals, with 72 and 100 beds respectively, were in use during the whole year for 86 cases of smallpox and 315 contacts with that disease, the stay of the contacts being only very temporary.

DR. NEIL MACLAY, visiting oto-rhinologist, continued the work which he has carried on since 1921. 16 per cent of the total scarlet fever admissions developed nose or ear infections, with occasional mastoid involvement. 33 cases required operation, and their stay in hospital subsequent to the development of this complication averaged only 14 days, as compared with 25 days in the case of those treated by conservative methods. The percentage of complicated cases is much the same as during the four preceding years, as also the shortening of the average stay in Hospital, so that the saving to the institution since the appointment of the oto-rhinologist

has been considerable, to say nothing of the immense gain to the patients themselves from the prevention of chronic “running” ears and their consequences.

The very interesting experimental work for prevention of complications in scarlet fever, commenced originally by DR. S. J. CLEGG, has also been continued, and alternate admissions have received inoculation with vaccines prepared from organisms isolated from recent cases of the disease, with similar results to those of previous years. Of 337 cases so treated, 35, or 10 per cent., subsequently developed nose or ear discharge, while of the remaining 699 patients 133, or 19 per cent., developed one or other of the complications.

With the discovery of the bacterial cause of scarlet fever—members of the hæmolytic or blood destructive group of streptococci—an antitoxin for use in treatment of the disease has been prepared from horses similarly to diphtheria antitoxin. This is still somewhat costly, about 21s. a dose, but has been used in a number of the severer cases, and the results have been so excellent as to make it pretty certain that the remedy will become as much a routine measure as the administration of antitoxin in diphtheria.

A further prophylactic measure has been in use in the diphtheria wards. On occasions when a diphtheria patient has been found after admission to have been incubating scarlet fever, all cases in the same pavilion have been inoculated with a small dose of ordinary polyvalent anti-streptococcus serum, which appears to protect the patient against possible cross infection with scarlet fever, hitherto one of the greatest sources of anxiety in hospital administration. So far no such cross infection has occurred since the adoption of this method.

The Schick reaction is ascertained in all members of the staff of the diphtheria pavilions, those that react, so indicating susceptibility to diphtheria, being treated with repeated doses of toxin-antitoxin, which confers immunity upon them. A similar test, the Dick reaction, for susceptibility to scarlet fever, has been used experimentally in a considerable number of staff and patients, but has not yet become a routine measure.

The average stay in hospital for all cases is now 34·4 days. For scarlet fever it is 37·3 days, as compared with a routine minimum, less than 20 years ago, of 56 days, and there is no doubt that much of this shortening is due to the advance in vaccine and serum therapy.

Bacteriological Examinations.—4,843 specimens were submitted for examination by the Department of Bacteriology of the College of Medicine, a slightly further increase upon the number (4,829) for the previous year. 1,795 were in respect of diphtheria, tuberculosis or enteric fever; 2,102 were for venereal disease; 692 were of milk; 181 of water; and the remaining 73 were special investigations of a varied nature, including virulence tests of diphtheria organisms, examinations of excreta for organisms of the enteric group, cerebrospinal fluid, and material for suspected food poisoning.

The *Disinfecting Stations* at Walker Gate and the Moor Hospital dealt with 58,326 articles from the City and the hospitals. The total amount spent by the Health Department on chemical disinfectants (formalin, izal, etc.), only amounted to £62, of which £16 was for the hospitals, reliance being placed mainly on steam disinfection of bedding, clothing, etc., and on soap and water, “elbow grease,” and fresh air. The practice of

house disinfection after fever is falling into considerable disregard by health officers throughout the world, and as may be seen the amount of chemical disinfection resorted to in Newcastle is now inconsiderable.

The **Venereal Disease** Clinic, which is shared with the other County Boroughs and the County Councils of Northumberland and Durham, is established in the Skin Department of the Royal Victoria Infirmary, and is in the hands of Professor SIR ROBERT A. BOLAM, Chief Specialist Medical Officer. The number of new cases from Newcastle has fallen considerably during the last five years. In 1921 there were 534 of syphilis, 489 gonorrhœa, 40 soft chancre, and 106 of conditions other than venereal. In 1925 there were 286 syphilis, 466 gonorrhœa, 34 soft chancre, and 93 conditions other than venereal. The greatest decline has therefore occurred in syphilis. The number of attendances per case during the same period has risen from 10·9 to 17·4, indicating that the treatment obtained is now much more thorough and complete than it used to be.

The existence of the clinic is advertised widely by enamelled iron notices in all the public conveniences, and in many belonging to big works, and by occasional lectures and addresses on health matters to various bodies by the Health Department staff, and also by the practitioners referring cases to it.

A large *irrigation station* is established beside the Skin Department, and is used largely.

39 per cent. of patients ceased to attend before treatment was completed, and of these 475 out of 588 defaulted before their first course of injections was completed. The percentage of defaulters has fluctuated

considerably. In 1924 it was 43 per cent., in 1923 46 per cent., in 1922 23 per cent., and in 1921 30 per cent. The difficulty in getting into touch with such persons is extreme, for obvious reasons. The patient may have given a false name, occasionally of some well-known and highly respected personage, or a communication to him may be opened by another member of the family, which is thus made aware of circumstances previously unsuspected by them, with very serious consequences.

Special attention is given to the question of venereal infection in the Maternity and Child Welfare Centres, and cases discovered are put into touch immediately with the clinic. The number of deaths of infants certified as due to syphilis has diminished from eleven in 1921 to two in 1925, and similarly notified cases of **Ophthalmia Neonatorum** (inflammation of the eyes in the newly born), usually due to gonorrhœal infection from the mother, have fallen from 95 in 1921 (116 in 1920) to 50 in 1925. Of 321 registered blind persons in Newcastle to-day 71 are stated to have been blind from birth, but there are only three blind children under five years of age, which appears to indicate that the prompt and careful attention to the eyes of the newly born and the notification of ophthalmia and its subsequent supervision, has not been without its effect.

The three Police Women continued to do valuable work. Their service lies mainly as matrons, in patrol duty in public places, and in detective work in connection with charges of abortion and treatment of disease by unqualified persons.

The **MATERNITY AND CHILD WELFARE** Section (under Dr. A. F. G. SPINKS) has had another highly satisfactory year's work. The infant mortality rate is the lowest ever recorded in the City, being equivalent to 88 deaths per thousand births. It is only during the last five years that the infantile mortality rate in Newcastle has reached two figures, and even so, it was just 100 in 1924; in 1921-22-23 it was 96, 92 and 98 respectively. The poorest wards are those which, as a rule, have the highest birth rate and the heaviest mortality. Thus in St. John's Ward the mortality was 126, in Armstrong 117, while in Jesmond it was 64, and St. Thomas' 52. Walker had the highest birth rate, but an infantile mortality of only 81, while St. John's, with a birth rate of 25·4, had a mortality of 126. Heaton and Jesmond, with birth rates of 18·1 and 11·5 respectively, had mortality rates of 63 and 64.

Considering that measles was epidemic throughout 1925, and that much of the energy of the Health Visitors was monopolised by the home visiting of these cases, the low infantile death rate is distinctly encouraging. Prematurity and congenital causes accounted for almost half the infant deaths, the figure showing little or no change since the commencement of the municipal effort on behalf of child life. All the success, and that is considerable, has been in the mitigation of the adverse conditions that affect babies subsequently to birth. Consequently special attention has been devoted to the expectant mother, and the number of antenatal clinics has been increased from 74 in 1920 to 319 in 1925. The medical officers who preside at these are chosen from among the practitioners who specialise in gynæcology, and whose ability to deal with this class of work is particularly reliable.

There are 35 practising midwives in the City, and of these there remain only four registered as having been in *bona-fide* practice before the passing of the Midwives Act. The "handy woman" has almost entirely disappeared.

Doctors were sent for by midwives on account of complications or emergencies in 248 instances. 118 claims from doctors, for fees amounting to £176 7s. 0d., in respect of calls for assistance to midwives were received, and nine claims for payment of midwives' fees amounting to £7 4s. 6d., under the Midwives Act, 1918. Each case was closely investigated before payment was approved.

Maternal mortality, that is, death of the mother in childbirth or immediately subsequent to it, in Newcastle is considerably below that for the country as a whole. It has fallen from 3·3 per thousand births in 1921 to 2·9 in 1925, while the rate for England and Wales is approximately 4. Besides the maternal deaths there are very many cases of injury, disability and subsequent ill-health, the direct result of child bearing, which are unrecorded. It is evident, however, that there is much scope for further effort, and the development of the ante-natal clinic is the best means to that end. We can congratulate ourselves upon the fact that it is undoubtedly a safer thing for a woman to be confined in Newcastle than in most other places. This we owe largely to the presence of the Princess Mary Maternity Hospital, which deals with an enormous number of the severe or complicated cases of parturition among the poorer classes, and indeed supervises about one-third of all the births notified in the City. The remaining two-thirds of the births are

managed in about equal proportions by medical practitioners and midwives ; the latter, being much fewer in number than in most towns, are in consequence better looked after, and are in continual touch with the Superintendent of Midwives in the Health Department, receiving regular tuition from her.

Since 1921, when this Section of the Health Department sustained drastic reduction in the name of economy, and the number of Health Visitors was reduced from 20 to 12, there has been gradual but steady recovery. In 1921 there were nine centres with a weekly session at each for babies, and there were weekly sessions at two of these for expectant mothers. There are now 18 Health Visitors, and 23 weekly medical sessions for babies and eight for expectant mothers at the eleven centres. The average attendance at each children's session is over 43, and at the antenatal sessions 7. There were in addition at the various centres a dozen weekly sewing and knitting classes, for which special teachers are engaged.

Of the 7,031 (gross) births which were registered in the City 4,988 (70·9 per cent.) were notified to the Medical Officer of Health. Over 90 per cent. of the children born were visited and followed up by the health visitor, upon whom also is imposed the duty of paying special visits to every notified case of measles, ophthalmia neonatorum and pneumonia.

There are 18 regular *voluntary workers*, and a few occasional ones, at the centres. Their efforts are, for the most part, concentrated upon the sewing days, helping expectant mothers to prepare for the coming babies, and young mothers to cope with the requirements of their little ones. The voluntary workers run

a nursery school at St. Peter's centre one morning a week. Here voluntary teachers preside, and the youngsters, under school age, are taught to play games, sing, be clean in habits, be fair and kindly in manner, and, generally, the rudiments of good citizenship. It is proposed to commence similar nursery schools at Diana Street and Wharncliffe Street centres. Simple lessons in cookery are given by these volunteers, and much useful practical work is done by them, and a personal and most helpful interest taken in the mothers. The Department acknowledges with gratitude this self-denying work, and recognises its great helpfulness and value. Even the caretakers at the various centres give most willing assistance to the furtherance of these efforts.

As has always been emphasised, welfare centres exist not for the purpose of treating established disease, but for keeping healthy babies well, and their purpose in this respect has been amply justified. Babies in need of medical treatment are referred to their family doctor or to an appropriate institution. Neither do the centres exist for the purposes of relief or material benefit to their frequenters, but coupons for *dried milk* are distributed, under the closest scrutiny as regards the suitability of the recipients, to mothers who are entirely unable to make this provision for their babies without assistance. About $15\frac{1}{2}$ tons, equivalent to approximately 22,000 gallons of fresh milk, were given free in this way to 1,645 women and babies, and sanctions for about 21 tons at cost price were given to 1,525 persons. The amount thus distributed shows an increase of about five tons of free and about six tons of cost-price milk since 1921.

The *Princess Mary Maternity Hospital* has already been referred to. It is a voluntary institution, and one of the largest maternity hospitals and training schools for midwives in Great Britain. Its functions are closely co-ordinated with those of the Health Department; the Medical Officer of Health and the Maternity and Child Welfare Medical Officer are both members of the Honorary Staff, as are also most of the part-time officers employed in the Department welfare centres, one of which is situated within the Hospital itself.

The *Hostel for Unmarried Mothers* in Osborne Road, the *Newcastle Day Nursery* in New Bridge Street, and the *Babies' Hostel and Mothercraft Centre*, have continued their useful functions in co-operation with the Department. The last mentioned functions as a hospital for wasting children and for the training of children's nurses.

TUBERCULOSIS.—As was to be expected, we are now, in spite of our preventive methods, beginning to realise the inevitable increase in tuberculosis that follows within a couple of years or so of a period of financial depression. So far that increase is slight, but nevertheless during the five years under survey the death rate from phthisis was 1·25 per 1,000 population in 1921, fell in 1922 to 1·14 and in 1923 to 1·10, since when it has been on the rise to 1·12 in 1924 and 1·20 in 1925. Our steadily increased control of milk supplies has coincided with a stationary death rate from other forms of tuberculosis. The total tuberculosis death rate was 1·55 in 1925.

Tuberculosis is undoubtedly very closely dependent upon economics, times of stress lowering the general

vitality and the consequent power of resistance to the ever present bacillus, which does not usually gain the upper hand for some little time.

A comparison of the deaths at various age periods during the three pre-war years 1911-13, and the last three years 1923-25, gives some indication of the trend of the disease. At all age periods, except between 15 and 25 years, there is a distinct and usually substantial diminution of tuberculosis, both pulmonary and other forms, but in the stage of adolescence and early adult life, the death rates of pulmonary and other forms of tuberculosis show a slight increase. Why this should be it is difficult to say. It may possibly be that it is between the years of leaving school and complete maturity that the curse of idleness exerts its most adverse influence. The great problem in attempting to control, and particularly to cure, phthisis is the fact that so large a proportion of cases only come to medical notice comparatively late in the disease, 30 per cent. dying within three months of notification. There is a further leakage of cases not notified at all. This, however, is of comparatively small amount, and is a steadily diminishing proportion (7·6 per cent.). The doctor in attendance at death is communicated with in each instance, and it is exceedingly rarely that there has not been some good reason for the omission, in many instances the presence of tuberculosis never having been suspected. There is thus a much more limited selection of patients in the curable stage for Barrasford Sanatorium than there is for the Advanced Case Hospital at Walker Gate, the 62 beds in which had to be increased in 1922 by inclusion of an outlying pavilion on the fever side. Even this increased accommodation is barely sufficient to meet requirements.

The purpose of the Advanced Case Hospital is principally the limitation of infection from patients living in unsuitable homes ; it is wonderful what improvement frequently takes place in these as a result of rest, good food, and efficient nursing, so that quite a number mend sufficiently to warrant their promotion to Barrasford. Other persons again are sent to the Advanced Case Hospital for observation, and even for diagnosis. A large number of patients from the Tuberculosis Dispensary also attends at the Hospital for periodic pneumothorax, and both there and at Barrasford there is an excellent installation of X-ray appliances, which have proved invaluable for diagnosis and in treatment. It has been suggested that the powers of compulsory removal to hospital under Section 62 of the Public Health Act, 1925, should be put into force in connection with all and sundry who refuse to leave their homes ; the advantages gained would in most instances be far more than counteracted by the disadvantages resulting from the detention of an unwilling patient in hospital, and the consequent discomfort caused by him to all the rest, and the unpopularity of the Hospital that would very quickly accrue, so that while the mere existence of the power is a most valuable asset, it should only be exercised in exceptional instances. As regards the cure of the disease, Barrasford Sanatorium offers at least as good a chance as any other institution in the country, and the great majority of patients on discharge have attained a definite arrest of the disease, their subsequent history depending largely upon their home conditions.

An announcement was made recently by the great French scientist, Calmette, of the discovery by him that children can be protected against infection of tuberculosis by the administration

immediately after birth of doses of tubercle bacilli of very low virulence (obtained by the culturing of the ordinary virulent type upon artificial medium over a series of years), and he claims that of some hundreds treated according to his method, not one child has contracted tuberculosis during the 5 years since the first treatment was given, whereas among the unprotected this disease in France is fairly common. A similar experiment on a very wide scale is being carried on in cattle. Calves receive the protection in the first fortnight of their separate existence, and the result appears to be completely effective.

Here is a line of action that appears highly promising, and we may rest assured that it will be given the fullest trial in the hope that it may be possible to make it available to all. Calmette's is a procedure the details of which are laid bare to the closest scientific investigation, and consequently offers great hopes. Of Spahlinger's process no more has been communicated to the medical profession than appeared in the public press in 1923, nor is any of his vaccine or serum available, so that beyond the great publicity to the statement of its marvellous specific effect and the consequent raising of unfulfilled hopes everywhere, it has as yet brought us no nearer to a cure. Premature disclosures to the public of such a nature are productive of great harm.

The *Tuberculosis Dispensary*, (under DR. GEORGE HURRELL, Tuberculosis Medical Officer) serves as a general clearing house for all cases of tuberculosis, and to it are referred all notifications for classification and record. There patients are examined and appropriate treatment is decided and arranged for—at home under their private doctor, at Sanatorium, or at the Advanced Case Hospital. The Tuberculosis Medical Officer, either

himself or through his visiting nurses, retains supervision and investigates the home conditions, employment, and general mode of life. Most important of all is that the members of the patient's family are seen, and in this way many unsuspected early cases are discovered, about one-fourth of all the cases that become known to the Department.

In conjunction with the Dispensary there exists the *Voluntary Tuberculosis Care Council*, an activity of the Citizen's Service Society. The membership of this Council includes the Chairmen of the Health Committee and the Tuberculosis Sub-Committee of the Corporation, together with the Medical Officer of Health and Tuberculosis Medical Officer ; it supplies at least a partial means of enabling the consumptive to overcome the conditions of life which are so prejudicial to his complete recovery. Thus patients are kept in touch, assisted with bedding, occasional rent, clothing, or special nourishment, are found suitable employment, and are generally heartened in their fight against disease. This organisation is invaluable, and well merits the subsidy which it receives from the Health Committee.

The housing of the sufferer and his family is the greatest problem of all, tuberculosis almost invariably entailing a descent in the financial scale for the sufferer. The overcrowding that exists throughout Newcastle is even yet appalling, particularly in the poorer wards. When a person living under these circumstances contracts phthisis his fate is sealed, unless he can be got out of his surroundings and is not permitted to return to them. The death-rate from all forms of the disease was 2·26 per 1,000 population in All Saints', 2·23 in St Nicholas', and 1·55 for the whole City, while in Fenham

it was only 0·81, and in Dene Ward 0·92. Over a period of 10 years the average tuberculosis death rate for St. Nicholas' was 2·42 and All Saints' 2·36 per 1,000 population, whereas the corresponding figures for St. Thomas' and Jesmond were 0·82 and 0·73 respectively.

It is about 10 years since the Health Committee adopted the principle that a reasonable measure in tuberculosis control would be for a number of houses in every municipal housing scheme to be allotted to tuberculous persons, the rent being subsidised for such as could not pay it. By this means ex-sanatorium patients, for example, would be housed under satisfactory conditions, and given a chance to consolidate their improvement and to continue at work, whereas as things are, most of them go down hill as soon as they return home. The tuberculous person, through want of means, is practically prohibited at the present time from obtaining a council house, as the Housing Committee is, of course, not a philanthropic institution.

The Health Committee leases 30 beds at *Stannington Sanatorium* for children. The average stay for the boys was 313 days, for the girls 199 days. Of the 46 patients 41 were improved, 4 did not respond to treatment, and one died. The greatest value of such an institution is as a preventorium for weakly or run-down children. This is not to say that its present use is not of the greatest service, but since the sojourn in it has often to be continued for over a year, it is obvious that its results are of necessity very limited.

At *Barrasford Sanatorium*, the Corporation's own Institution, 45 of the 90 beds have been in constant occupation by Newcastle cases, and out of 241 total admissions 121 were from Newcastle. The average

duration of stay of patients who completed treatment was 125 days, practically 18 weeks, one week less than last year, and as emphasised by the Medical Superintendent (DR. C. G. R. GOODWIN), entirely insufficient for cure. Rest, with graduated exercise subsequently, is the usual method of treatment, with pneumothorax in all suitable cases. The immediate results of treatment were as usual—excellent, says Dr. Goodwin, but the affected lung, though patched up, and may be with the disease brought to a standstill, is nevertheless not healed, and this remains a constant menace to the patient in the absence of a “sheltered life.” Patients appear to be quite unable to realise this, and too often their return home is signalled by an attempt to live exactly as they did before their illness. The results of treatment of Newcastle cases were, at the time of discharge, fit for work, 57, improved 26, not improved 10, worse 10, died in Sanatorium 1.

The *Advanced Case Hospital* at Walker Gate dealt with 336 patients, of whom 61 were ex-service men. Nearly half were females, this being the highest proportion of women admitted in any year. The average length of stay was about 14 weeks. Of 339 patients who completed treatment, 167 were improved, (34 of these were transferred to Barrasford Sanatorium), 83 left without improvement, and 89 died in the Hospital.

The Education Committee's *Open Air School* at Pendower is one of the finest examples of prevention that could well be devised, and its results must be a source of the highest gratification to those who brought about its inauguration. It is to be hoped that this school will be duplicated at the earliest possible opportunity.

The *Dental Clinics* of the Education Committee also constitute an extremely valuable protection against the access of infection by removing weak spots in the natural line of defence against disease. Since in a case of tuberculosis, infection enters a child's body largely through what it eats, as evidenced by the frequency of tuberculous glands of the neck, this service accordingly could be extended with profit.

As stated last year, no provision is made for the treatment of surgical tuberculosis except for a small number of children, which are sent to Stannington. At the present time such cases are dealt with by the general hospitals, the pressure upon whose beds renders it more and more difficult for accommodation to be found for tuberculosis cases, which occupy the beds for long periods. The Health Committee will probably have to face in the near future either the establishment of a special institution for surgical tuberculosis or the subsidy of one or more of the general hospitals to enable the provision of additional beds for this purpose.

FOOD AND PROVISIONS. Bovine Tuberculosis.—372 samples of milk were examined for the presence of tubercle bacilli, which were found in 29 or 8 per cent. of them, which is the highest proportion for 10 years. This is most disappointing, for there has not been so high a percentage since 1916, and in 1924 it was only 3·2. With the coming into force on 1st September, 1925, of the Milk and Dairies (Consolidation) Act, 1915, and the Tuberculosis Order, 1925, it has been possible to ascertain by official channels what previously there was no reliable means of getting to know. The Milk and Dairies Order, 1926, which becomes operative on the 1st October, 1926, should, if properly carried out, render much more effective our machinery for disposing of tubercle yielders.

A recent census of the daily milk supply of the City was made, and this revealed the fact that approximately 10,000 gallons only are retailed daily in Newcastle, that is, the equivalent of a small teacupful to each individual in the population. About 7,000 gallons are handled by the large milk dealers, about 1,000 gallons are retailed by local cow keepers, and about 1,000 gallons by small dealers and shops. Only about 1,500 gallons are produced on farms within or close to Newcastle, the remainder coming from Cumberland and Westmorland, Dumfries-shire and Ayrshire, and a small amount from Northumberland. Between four and five hundred gallons of Graded Milk are sold daily, of which quantity only thirty gallons are "Certified," the remainder being "Grade A (Tuberculin Tested)." In spite of its being well advertised, the sale of graded milk has not increased to anything like the extent it should. Undoubtedly its greater cost remains the obstacle. If, however, people, especially parents of young children, would only consider how well worth the higher price it is to have absolute safety from tuberculosis, as well as from other germ-conveyed disease that the use of this milk guarantees, there are few who would not make shift to obtain it, at least for their children. Of the institutions in the City two alone, the City Hospital for Infectious Diseases and the Open Air School at Pendower, get this milk, for apparently it is only the committees of the Corporation who have yet realised their responsibility for the children under their care.

The Veterinary Officer and Inspector of Provisions (Mr. THOMAS PARKER, F.R.C.V.S.), reports that the City now contains 21 cow-keepers occupying 33 cow-sheds on 23 premises, with 337 milch cows, indicating a continuance of the diminution of cows within the City

which has been taking place during recent years. In 1921 the number was 575. This is as it should be, since the cow and its environment are obviously out of place in town, and now that there is some possibility of inspection of cows and cow-keepers becoming efficient in rural areas, the last reason for their urban establishment would seem to have disappeared. Inspection of cows in the City cowsheds has been carried out regularly during the year by Mr. Parker, or the Assistant Veterinary Officer, and 10 diseased animals were detected, 9 of them being tuberculous.

There are 101 separate slaughter houses in 15 different localities in the City. With the coming into force of the Public Health Meat Regulations, 1924, on 1st April, 1925, supervision of slaughtering was made somewhat easier, since the hours of killing were regulated, special and immediate notice having to be sent of any case of emergency slaughter. In respect of this, however, the lack of public abattoirs is badly felt both by the Health Department and a growing proportion of the butchers, since overcrowding in existing slaughter-houses is becoming more and more common. The regulations regarding cleanliness have been pretty well carried out, meat porters wearing special head gear and overalls, and so forth. Shops for the most part have closed fronts, and there is not much exposure of meat to street dust. An endeavour, fairly successful, was being made to insist upon protection against this, but on receipt of the somewhat undignified circular of the Ministry resulting from pressure by the London butchers upon the point, no further attempt was made in this direction. There were no prosecutions necessary in respect of sale of diseased meat or other food. 479

carcases with 1,329 lbs. of meat were seized and condemned during 1925, nearly one half being for tuberculosis.

The number of cattle exposed for sale returned to normal during the year under report, being much below par during 1924 on account of foot and mouth disease.

217 food-carrying vessels came to the Quayside during 1925, which is about 30 more than the usual number. All imported articles were kept under supervision by Mr. Parker and his staff.

Food and Drugs Adulteration Acts.—The Inspector under the Food and Drugs Acts (MR. C. RAIMES) reports the taking of 1,131 samples for analysis, including 877 of milk. Of the latter 517 were rough tested in the Health Department and appeared to be genuine. Of the remaining 360 the Public Analyst (DR. J. T. DUNN) found 64 below the minimal limit fixed by the Sale of Milk Regulations, 1901. Of the 254 samples of food and drugs other than milk, 11 were found to be “not genuine.”

31 milk cases were taken to court, and verdicts were obtained in 26 of them, with fines aggregating £62 10s. 0d. Cautions were issued by the Committee in respect of 27, and no proceedings were taken in 6 cases. There were two prosecutions for offences other than adulteration, which resulted in fines amounting to £4.

19 samples of condensed milk were taken under the Public Health Condensed Milk Regulations, 1923. Two of these, one an informal sample, were reported as deficient in milk fat; the producing firm was communicated with, but for sufficient reason, no further action was taken. 3 samples of dried milk were found satisfactory and free from preservatives.

184 samples of milk were examined for evidence of excremental pollution, which was found to an undesirable degree in 66 (or 35·9 per cent.) as compared with 56 per cent. in 1924, 16 per cent. in 1923, 32 per cent. in 1922, and 60 per cent. in 1921. The great proportion of dirty milks occurs between July and October, when 65 per cent. were found polluted. Since 1922 cold water rinsing of all empty churns before returning them on rail has been insisted upon, and is now accepted as a routine procedure by all dealers in the City. Practically 27,000 churns were examined on the railway stations and only 62 (or 0·2 per cent.) were found unrinsed, the same as in 1924, as compared with 0·5 per cent. in 1923, and 2·5 in 1922.

Special reference should be made to the activity of the Agricultural Department of Armstrong College in giving instructions to farmers and organising clean milk competitions. This work is undoubtedly having the effect of encouraging the practice of cleaner methods by farmers.

There are 285 small shops in which milk is sold with other articles. These are kept under close observation and strict control as to licences. In addition to these there are 210 shops selling sterilized milk in sealed bottles. These shops are also carefully controlled, and although the conditions of permit are not quite so strict as in the case of loose milk, the premises are fairly satisfactory.

The ice-cream trade has been kept under close supervision, and permits to manufacture and to sell are given by the Health Department.

Preservative (boric acid) was found in one sample of new milk, and the vendor was summoned and fined 10 shillings. 24 of the margarine and six of the butter samples contained boric acid below 0·5 per cent., as did 8 samples of cream; two of the latter were not sold as “preserved cream,” and the vendor was cautioned in each case.

Margarine warehouses, bakehouses, restaurant kitchens, and fried fish shops have all been carefully watched, permits to establish the last named “offensive trade” in Newcastle having to be obtained from the Health Committee.

In 181 samples of water examined for bacillus coli as indicative of the presence of excremental contamination, animal or human, 9 were classed by the bacteriologist as satisfactory, 59 were reported as doubtful, and 113 as unsatisfactory, cogent proof of the need for the addition to the filtration plant which was in course of completion and adjustment during the year. This consists of 7 rows each of 7 rapid filtration tanks capable of dealing with 7,000,000 gallons per day, which is equivalent to one-third of the daily supply to the City. This, having since proved inadequate for purification purposes, has had to be supplemented by chlorination of the water.

THE HOUSE AND THE WORKPLACE.—Nuisance Abatement.—The Senior Sanitary Inspector (Mr. C. RAIMES) continues to report difficulty in getting necessary improvements carried out in houses showing remediable defects. 6,677 notices were served, but the work was done in each case without resort to the police court. House closure for reasons of dilapidation or bad sanitation was still practically impossible, and

since owners frequently desired the closure of such houses, the tenants of which had nowhere else to go, it was most difficult to get repairs undertaken.

About 600 dry closets have been removed, together with about 100 dry ashpits, at the owners' expense. There still remain 3,255 of these antiquated and foul institutions in the City, but progress in conversion is now becoming much more rapid.

Atmospheric Pollution.—462 observations were made of 99 industrial chimneys, 12 of which showed excessive output of smoke on 20 occasions. There were no prosecutions undertaken, but the representations of the Department were all accepted seriously and genuine efforts made to prevent recurrence. Newcastle factories do not account for a great deal of smoke, although the same cannot be said for those in immediately contiguous areas, the output of which is carried by prevailing winds over Newcastle.

Domestic chimneys are much the greater sinners in this respect, and the practice (of course always by tenants, not owners) of cleaning a chimney by firing it, is all too common, and the Police have been asked to exercise their power under the Newcastle-upon-Tyne Improvement Act, 1865, Section 102, the use of which has almost fallen into complete abeyance.

Housing.—A much more satisfactory addition has been made to the Housing accommodation during the past year, 1,177 houses in all being completed, and the erection of some hundreds more got under way by the end of the year. 385 were put up by private owners and the remainder by the Corporation.

The first houses built since 1914 were 305 in 1921 followed by 523 in 1922, 511 in 1923, and 279 in 1924, the year under report showing by far the largest gain. In spite of this, however, there is still gross overcrowding, and the same profiteering by sub-letting and the exploitation of so-called furnished lodgings continues. Although times are bad, and there is so much poverty, there is no doubt that it is the very poor who have to pay most heavily for their shelter, just as on account of limited accommodation and limited purchasing power they have to pay most highly for their coal. Housing is undoubtedly the most important condition to-day that bears upon the public health, and with housing, poverty is indissolubly associated.

In 1925 the death rates were 19·2 per 1,000 in St. Nicholas' Ward, 16·2 in Stephenson, and 15·9 in Walker, as compared with 8·5 in Dene, 9·9 in St. Thomas', and 11·6 in Jesmond. In All Saints' Ward the death rate from all forms of tuberculosis was 2·26 per 1,000 population, while in Fenham it was 0·81. In St. John's Ward 126 babies under one year of age died to every 1,000 born, and in Armstrong 117, whereas in Heaton the rate was 63, and in Jesmond 64 deaths of infants per 1,000 births. Over a period of 18 years the deaths of babies in one-room, two-room, and three-room houses have been respectively 137, 119 and 100 per 1,000 births.

A commencement had been made by the end of the year with the demolition of one of the three condemned areas, the lower end of Pilgrim Street. The compensatory houses for this and for Prudhoe and Liverpool Street areas are being rapidly completed in Barrack Road (block dwellings) and at Cow Gate (self-contained houses and flats). Other areas are awaiting condemna-

tion at the earliest possible opportunity, notably on the Quayside, St. Peters', Elswick East Terrace, and below Scotswood Road.

Accommodation in Common Lodging Houses continued to be adequate. At the end of the year there were 44 such houses, there having been no change since the previous year.

By resolution of Committee no girl under 19 years of age is admissible to any common lodging house unless accompanied by a parent or responsible guardian. Homeless girls, in consequence, are driven to occupy "furnished" rooms in tenemented houses, for which they are usually compelled to pay exorbitant rents by people who are well aware of their means of livelihood. The sooner the proposed bylaws for supervision and control of sub-let rooms are issued the better.

Factories and Workshops, Offices, Places of Amusement and Schools.—9,545 inspections of factories and workplaces were made and 353 notices to remedy defects were served. The homes of outworkers were also kept under observation.

Special attention has been paid to the ventilation of *cinemas and theatres*, and the Senior Sanitary Inspector has carried out a large number of observations by means of the kata-thermometer, the use of which has entirely superseded the older method of estimating the amount of carbon di-oxide in the air. It is now known that stuffiness is due not to excess of impurity, but to the inadequate movement and consequent cooling power of the air. When the atmosphere of a room is stagnant, the body's exhalations remain concentrated in close juxtaposition to the body, thus blanketing, as

it were, the respiratory functions of the skin, whereas with the setting up of air currents these impurities are removed, and the sensation of freshness returns. 84 tests of the kata-thermometer were made in 37 buildings, and only 14 reached a sufficient standard, the remainder showing great variation. This work is being continued and is proving of very great interest and utility.

Industrial Welfare has been the subject of close attention. A number of firms in Newcastle employ whole-time welfare organisers, and take a very real interest in the wellbeing of their employés. The welfare organisers of Tyneside and Wearside have formed an association which meets regularly for exchange of information and experience, and your Medical Officers have given addresses to this body, and have assisted it in various ways. The movement is one that is full of promise for the advantage of both employer and employed.

The *Temperance Festival* was held in June on the Town Moor in fine weather, and there was an enormous concourse of people. The previous complaints of the Health Department in regard to the sanitary arrangements provided had been very largely met by special provision by the City Engineer, and will be improved upon still further in future years. The letting of sites to retailers of food, including milk and ice-cream, were notified to the Health Department, thus enabling much closer control of these itinerants than hitherto. A considerable number of them came from outside areas where they are under very inadequate supervision, so that special attention has to be paid to them when they invade the City.

POPULAR EDUCATION.

Frequent lectures and addresses were given, as usual, by the medical staff to social bodies of various kinds in the City, upon numerous subjects.

Health Week, 4th to 10th October, was observed by publication of a series of articles upon health subjects in every Newcastle newspaper each day, exhibition of health films at the cinemas, topical sermons on the opening Sunday by many of the clergy in the churches, addresses to senior scholars in the elementary schools, wall cartoons at local hospitals and institutions, posters throughout the town, notices in the trams, clean milk pamphlets to all dairymen, public inspection of baths and wash-houses, and evening parades by Boy Scouts, displaying four tableaux staged upon eight lorries and distributing hand-bills on health matters.

There is a considerable demand by societies interested in social work, and by debating societies, for the introductory section of this report, and in a number of instances for the full report, which is made considerable use of in their winter programmes.

STAFF.—A number of changes have taken place in the personnel of the Department, more particularly in the Sanitary Inspectors' Section. In April Dr. W. H. Dickinson, O.B.E., M.D., D.P.H., who had acted as Tuberculosis Medical Officer since the creation of the post in February, 1913, resigned to take up private consulting practice, and Dr. George Hurrell, M.D., D.P.H., Assistant Tuberculosis Medical Officer, was appointed to the vacancy. Additional assistance being required in the work of the Dispensary, the Committee was fortunate in being able to retain the part-time services of Dr. Dickinson, whose intimate knowledge of the Section of

the Health Department which he had built up and carried on so successfully was a very real asset and assurance of continued progress.

In November Inspector Edward Scott, for 28 years in charge of the Heaton district of the City, died. He was one of the senior members and a thoroughly reliable, conscientious officer. He had a quiet, unassuming way of getting things done, and his death was a very real loss to the Department.

In the same month Inspector William Cattliff retired on pension after 34 years' service. He entered the Department as Inspector of Common Lodging Houses, was shortly afterwards given charge of a district, and 15 years ago was appointed Assistant Inspector of Food and Drugs. It is not too much to say that the generally high standard of food stuffs sold in Newcastle is largely due to Mr. Cattliff's indefatigable and thorough methods. He was the right man in the right place, being forceful, courageous, and tenacious of purpose, as well as being an excellent witness in Court. His retirement was regretted by all, with the exception, possibly, of the dealer with an uneasy conscience.

Inspector R. G. Redpath, after 20 years' service as a district inspector, received an appointment as Chief Sanitary Inspector at Blyth. His methodical work in connection with insanitary areas was of the best, and he has well merited his promotion.

There have been several changes among the recently appointed Meat Inspectors, and Inspector William Cockburn has since been transferred from a district to food work.

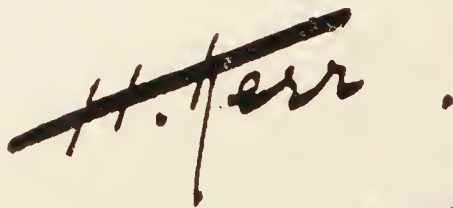
Miss Mary Levine, the senior Health Visitor, resigned in May. She did excellent work during the nine years she had been in the Department, being hard working, reliable, and possessed of a great amount of common sense and sympathy that endeared her to the mothers among whom she visited.

Miss M. L. Hutchinson, Senior Tuberculosis Visiting Nurse, resigned in September after twelve years valuable service in the Dispensary.

Acknowledgments.—Satisfactory performance of the multitudinous and exacting duties of a Medical Officer of Health depends very largely upon the effective support and loyalty of his staff. These I have always experienced in full measure, and gladly acknowledge them. It is a pleasure to work under such conditions.

To yourself, Sir, and to the members of the Committee, I am indebted for much kindness and consideration, particularly in connection with my recent illness, and for your thought for me at that and all other times, believe me, I am grateful.

I have the honour to be, Sir,
Your obedient Servant,



M.D.,
Medical Officer of Health.

*Health Department,
Town Hall,
Newcastle-upon-Tyne,
3rd July, 1926.*

CITY AND COUNTY OF NEWCASTLE-UPON-TYNE.

Health Report, 1925.

I.—GENERAL.

MORTALITY TABLES,
SOCIAL CONDITIONS, CLIMATOLOGY,
WATER SUPPLY, DISPOSAL OF REFUSE.

Population, Birth Rate, and Special Mortality Rates during the period of the Notification of Infectious Diseases.

Year.	Population.	Birth Rate.	General Death Rate.	Infantile Mortality (Deaths per 1,000 Births).	Zymotic Death Rate.	Diarrhoea and Enteritis (All Ages).		Smallpox.				Typhus.		Enteric Fever.					Diphtheria.					Scarlet Fever.					Erysipelas.					Measles. **				Whooping Cough.		Purpural Septicemia.		Cancer.				Phthisis.				Tuberculosis. Other Forms.				Total.			Year.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
						Number of Deaths.	Death Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Case Mortality per cent.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Death Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Death Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.	Cases Notified.	Number of Deaths.	Death Rate per 1,000 Population.	Attack Rate per 1,000 Population.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1883	153,756	35.6	24.7	168	4.1	105	0.68	493	60	12.2	0.39	3.2	96	24	216	42	15.4	0.27	1.41	29	11	37.9	0.07	0.19	1,152	124	10.8	0.81	7.5	?	..	?	209	1.36	51	0.33	7	1	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?	?	..	?

GENERAL STATISTICS.

POPULATION.—As estimated by the Registrar General at the middle of the year 1925—**286,300.**

RETURN SHEWING THE ESTIMATED POPULATION OF THE DIFFERENT
WARDS IN THE CITY, ACREAGE, POPULATION PER ACRE, ETC.

Ward.	Population	Gross Area in acres	Less for Open Spaces in acres.	Nett Area in acres.	Population per acre, gross.	Nett.
St. Nicholas'	3,587	127	1	126	28	28
St. Thomas'	14,870	1,636	1,111	525	9	28
St. John's.....	15,947	169	1	168	94	95
Stephenson	19,962	215	..	215	93	93
Armstrong	16,506	178	31	147	93	112
Elswick.....	13,080	253	17	236	52	55
Westgate	16,126	90	1	89	179	181
Arthur's Hill	10,094	142	6	136	71	74
Benwell	20,404	550	29	521	37	39
Fenham	12,279	1,189	4	1,185	10	10
All Saints'	18,127	176	2	174	103	104
St. Andrew's	13,129	173	3	170	76	77
Jesmond	10,872	441	33	408	25	27
Dene	12,988	818	88	730	16	18
Heaton	14,935	225	27	198	66	75
Byker	18,240	140	..	140	130	130
St. Lawrence	20,510	181	7	174	113	118
St. Anthony's	17,508	601	..	601	29	29
Walker	17,136	1,149	34	1,115	15	15
CITY	286,300	8,453	1,395	7,058	34	40

INHABITED HOUSES.—**60,826** inhabited houses, which, on the estimated population, shows an average of 4·7 persons per dwelling.

RATEABLE VALUE.—**£2,001,163.** A penny rate produced £7,824.

SOCIAL CONDITIONS.—The principal **Trades and Occupations** are of a healthy nature, being generally engineering and machine making; conveyance of men, goods, and messages; building and works of construction, *e.g.*, ship building; and connected with ships and

boats, sea-faring and harbour work ; food, tobacco, drink, and lodging ; coal and shale mines ; and commercial or business occupations.

The amount of **Poor Law Relief** granted during the year ended 31st March, 1925, was £254,887 for outdoor relief, and £35,846 for indoor maintenance, making a total of **£290,733**, as compared with **£371,859** in the previous year.

The number of registered unemployed rose from 14,684 at the beginning of the year, to 15,628 at its close.

The City contains many **Hospitals** and other medical charities, but since wide surrounding districts are also served by them, figures as to patients treated are not of local value.

MARRIAGES.—2,299 marriages took place during the year, as compared with 2,329 in 1924, and 2,159 in 1923.

BIRTHS.—6,215, equivalent to a rate of 21·6 per 1,000 population.

DEATHS.—(All causes)—4,732, equivalent to an uncorrected rate of 16·5 per 1,000 population, and, after deduction of the deaths of 989 non-citizens, and addition of 165 Newcastle residents who died elsewhere, to a corrected rate of 13·6 per 1,000 population, the third lowest on record. In 1924 the death rate was 13·5.

18 deaths were uncertified (natural causes, 2 ; convulsions, 3 ; hemiplegia, 1 ; premature birth, 1 ; debility from birth, 1 ; old age, 4 ; heart failure, 6).

20 *Orders for Burial* (Newcastle-upon-Tyne Improvement Act, 1882, Sec. 47) were given, 3 being in respect of bodies lying in inhabited rooms, and 17 being cases from hospital.

TOTAL DEATHS DURING RECENT YEARS FROM CERTAIN CLASSES
OF DISEASE.

Classification in Table III. of Ministry of Health.

	II. Nervous System.	III. Circu- latory.	IV. Respira- tory.	V. Digestive.	XIII. External Causes.
1912	410	435	603	204	152
1913	457	453	722	332	114
1914	448	505	863	465	142
1915	470	635	873	361	163
1916	477	448	856	281	117
1917	497	478	864	268	135
1918	498	503	957	252	135
1919	439	497	1,040	272	133
1920	384	534	861	275	124
1921	347	581	726	297	113
1922	363	689	913	181	92
1923	363	623	623	219	112
1924	376	667	749	206	110
1925	359	696	681	248	131

INFANTILE MORTALITY.—550 infants died before completing the first year of life, representing a rate of **88** deaths per 1,000 births.

ZYMOTIC DEATH RATE.—There were 301 deaths from the “ Chief Zymotic Diseases ”—smallpox, measles, scarlet fever, diphtheria, whooping cough, fever (typhus, simple continued, and enteric) and diarrhoea (all ages)—equivalent to 1·05 deaths per 1,000 population.

TUBERCULOSIS.—444 persons died from various forms of tuberculosis, 343 being from pulmonary, and 101 from other forms. The equivalent death rates are *All Forms* 1·55, *Pulmonary*, 1·20, and *Other Forms than Pulmonary* 0·35 per 1,000 population.

For comparison of death rates with previous years see large table page 52A.

For particulars of deaths, as to site of disease, age, etc., see table, page 62A.

GEOLOGY.—The geological formation of the area consists of heavy clay on the top of hard sandstone, which overlies coal seams.

CLIMATOLOGY.—The following information is supplied by the courtesy of the “North Mail and Chronicle” :—

The mean barometer reading was 29·86 in.

The mean maximum temperature was 55·4° F.; and the mean minimum 41·9° F.

Rain fell on no fewer than 180 days; and the total rainfall for the year reached 29·87 inches, against an average of 27·89 inches, showing an excess of 1·98 inches for the twelve months.

The wettest month was December, with a total rainfall of 4·24 inches, against an average of 2·30 inches, showing a surplus of 1·94 inches. August and September were the next wettest, with a total rainfall of 3·98 and 3·36 inches respectively. As its average (2·71 inches) was exceeded by 1·27, August had a greater excess than September. The wettest day was January 4th, when 0·77 inches of rain fell.

The driest month was June, when no measurable quantity of rain fell. The nearest approach to this during the last thirty years was June, 1915, when the total rainfall was 0·40 inches. The district average for the month is 1·64 inches.

As usual, westerly winds were prevalent, and the following table shows the frequency of the directions :—

W.	on 73 days.
N.W.	on 52 „
S.W.	on 53 „
N.	on 29 „
E.	on 24 „
S.E.	on 22 „
N.E.	on 26 „
S.	on 48 „

Cockle Park and Armstrong College.

Sunshine records have been available by the courtesy of Professors H. Stroud and D. A. Gilchrist, of Armstrong College. The observations are taken at Cockle Park Farm (some miles north of the City, and in a rural area), and at the College itself. During the year 924 hours of sunshine were registered in the City, as compared with 1,461 at Cockle Park.

WATER SUPPLY.—The City is served by the Newcastle and Gateshead Water Company with a plentiful supply of pure upland surface water, collected from large catchment areas at Catcleugh, close to the Cheviots, and in lower Northumberland.

It is stored in large impounding reservoirs at Catcleugh, Hallington, and Whittle Dene, and passes through sand filters at Whittle Dene and Throckley.

In the vast majority of cases the household taps are served directly from the mains without intervening cisterns.

A separate trade supply is piped to some of the great riverside works from a point above the filters.

The bacteriological reports upon the water are given on page 137.

During the year 1925 the new battery of rapid filtration drums, dealing with seven million gallons per day, equal to approximately one third of the City's consumption, came into service, and were being "tuned up." It was found, however, that they did not bring about the degree of clearance of bacteria that was anticipated, and they have since been supplemented by chlorination of the water, with marked improvement.

SEWERAGE.—There are 299 miles and 428 yards of sewers discharging directly into the Tyne, which is tidal, at various points along the seven miles of river frontage.

CLEANSING AND SCAVENGING.—With the exception of certain areas, the ashbins are now only emptied once per week instead of twice. With the prevailing high costs it is improbable that the frequency of removal can be increased.

There are 56,209 dry ashtubs and galvanised iron bins, and 55,770 water closets and 3,274 conservancy system closets in the City. Conversion of the latter was proceeding steadily up to the outbreak of war, at the rate of 600 to 700 per annum. During 1925, 397 pail-closets, 193 cell privies and 1 midden privy were removed and water closets substituted. All the schools are served by the water-carriage system.

ADOPTIVE AND LOCAL ACTS IN FORCE.

Adopted Acts.—Infectious Disease (Prevention) Act, 1890. Section 4.

Public Health Acts Amendment Act, 1890.—Part III—Whole of ; Part IV.—Whole of.

Public Health Acts Amendment Act, 1907.—Part II.—Sections 20, 22, 23, 26, 27, 28, 29, 30, 31, and 33 ; Part III.—Sections 34, 35, 36, 37, 38, 43, 45, 48, 49, 50 and 51 ; Part IV.—Sections 52, 53, 56, 58, 59, 61, 62, 63, 64, 65 and 68 ; Part X.—Whole of.

Local Acts.—Newcastle-upon-Tyne Improvement Act,		1837.
„	„	1846.
„	„	1853.
„	„	1865.
„	„	1870.
„	„	1882.
„	„	1892.
Newcastle-upon-Tyne Tramways and Improvement Act		1899.
Newcastle-upon-Tyne Corporation Act ..		1911.

VITAL STATISTICS, YEAR 1925.

COMPARISON WITH OTHER DISTRICTS.

DISTRICT	Birth Rate.	General Death Rate.	Infantile Mortality Rate.	Death Rate per 1,000 from Enteric Fever, Smallpox, Scarlet Fever, Measles, Whooping Cough, and Diphtheria	Tubercu- losis (all forms) Death Rate.
England and Wales	18·3	12·2	75	0·39	†
105 Great Towns (includ. London)	18·8	12·2	79	0·48	†
NEWCASTLE-UPON-TYNE	21·6	13·6	88	0·75	1·55
Hull	21·8	12·9	89	0·56	1·30
Leeds.....	17·3	12·1	91	0·30	1·27
Bradford	16·6	14·0	96	0·50	0·92
Sheffield	17·6	11·5	85	0·36	0·99
Manchester	18·6	14·4	96	0·65	1·55
Salford	18·8	13·9	105	0·53	1·59
Liverpool	23·3	14·1	99	0·99	1·50
Nottingham	19·1	13·7	96	0·62	1·19
Leicester	17·3	12·9	87	0·64	1·50
Stoke-on-Trent	22·9	13·5	106	0·51	1·31
Birmingham	18·7	11·7	78	0·48	1·14
Cardiff	20·5	12·8	92	0·62	1·52
Bristol	17·3	13·3	76	1·12	1·19
Portsmouth	19·0	12·3	61	0·44	1·09
London (County).....	17·9	11·9	68	0·40	1·12
Gateshead.....	24·4	14·0	108	1·03	1·62
South Shields	23·9	14·3	113	0·77	1·76
Tynemouth	21·9	13·6	95	0·93	1·31
Sunderland	24·7	15·3	117	1·17	1·52
Middlesbrough	25·7	15·6	97	0·66	1·63
*County of Northumberland	20·8	11·6	82	0·46	1·08
*County of Durham	24·1	12·7	100	0·77	1·19

* Administrative County.

† Not available.

TABLE I. OF MINISTRY OF HEALTH.

Vital Statistics of Whole District during 1925 and previous Years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncor-rected Number	Nett.		Number	Rate.	of Non-resi-dents regis-tered in the District.	of Resi-dents not reg-istered in the District.	Under 1 Year of Age.		At all Ages.	
			Number	Rate.					Number	Rate per 1,000 Nett Births	Number	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1906	257,113	8,210	..	..	4,831	18·8	..	..	..	..	..	..
1907	259,082	8,093	..	..	4,594	17·7	..	..	..	..	..	..
1908	261,065	8,382	..	..	4,801	18·4	..	..	..	..	..	..
1909	263,064	7,682	..	..	4,459	16·9	..	..	..	..	..	..
1910	265,077	7,543	..	..	4,252	16·0	..	..	..	..	..	..
1911	267,261	7,089	7,082	26·5	4,667	17·5	448	165	973	137	4,384	16·4
1912	269,193	7,219	7,194	26·7	4,221	15·7	529	146	727	101	3,838	14·5
1913	271,295	7,480	7,460	27·5	4,611	17·0	560	141	908	122	4,192	15·5
1914	271,523	7,564	7,538	27·8	5,069	18·7	546	138	1,029	137	4,660	17·2
1915	278,107	7,575	7,545	27·8†	5,257	18·9	693	207	1,007	133	4,771*	17·2*
1916	278,107	7,332	7,248	26·2	4,875	17·5	680	232	899	123	4,427*	15·9*
1917	278,107	6,548	6,495	23·4	4,646	16·7	718	246	732	113	4,174*	15·0*
1918	278,107	6,555	6,468	23·3	5,380	19·3	872	308	692	107	4,816*	17·3*
1919	275,099	6,793	6,674	23·3§	5,358	19·5	737	234	806	120	4,855*	17·6*
1920	286,061	8,433	8,070	28·0‡	4,609	16·1	779	195	817	101	4,025	14·0
1921	278,400	7,720	7,284	26·2	4,602	16·5	817	142	699	96	3,927	14·1
1922	281,600	7,432	6,987	24·8	4,698	16·7	831	145	646	92	4,012	14·2
1923	283,800	6,961	6,367	22·4	4,298	15·1	789	150	623	98	3,659	12·9
1924	285,900	7,029	6,335	22·2	4,607	16·1	929	172	632	100	3,850	13·5
1925	286,300	7,031	6,215	21·6 x	4,732	16·5	989	165	550	88	3,908	13·6

Area of District in acres (exclusive of area covered by water) 8,453.

Total population at all ages at census 1921, 278,400.

† In accordance with the instructions of the Supt. of Statistics, General Register Office, Somerset House, this rate is calculated on the population for 1914. * Civilians only.

§ Calculated on a population of 286,571.

‡ Calculated on a population of 287,255.

x " " " " 287,100.

Corrected Death Rates in different Wards, 1925.

St. Nicholas'.	St. Thomas .	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints'.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.	St. Lawrence.	St. Anthony's.	Walker.	City
19.2	9.9	15.4	16.2	14.7	14.4	13.3	13.2	14.1	11.1	15.7	15.5	11.6	8.5	11.8	13.6	13.1	13.1	15.9	13

All deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

TABLE II. OF MINISTRY OF HEALTH.

(See under **INFECTIOUS DISEASES**, pages 99 & 100).

TABLE IV. OF MINISTRY OF HEALTH

See under **INFANTILE MORTALITY** page 66a).

Carried forward..	254	214	203	146	201	465	917	899	200	201	189	175	95	168	383	899	863	2033	50	102	185	346	189	151	139	70	24	223	153	81	76	133	188	200	167	186	117	467	1334
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TABLE III. OF THE MINISTRY OF HEALTH.—Continued.
RETURN OF DEATHS FROM "ALL CAUSES" DURING THE 52 WEEKS ENDED 2ND JANUARY, 1926.

CAUSE OF DEATH.	AGE PERIODS.																	WARDS—NET DEATHS.																	TRANS- FERABLE DEATHS.	Deaths in Hospitals in the 52 weeks ended 2nd Jan. 1926, or "Non-Residents."										
	GROSS.								NET.																																					
	Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above.	TOTAL (GROSS).	Under 1 year.	1 year and under 2.	2 years and under 5.	5 years and under 15.	15 years and under 25.	25 years and under 45.	45 years and under 65.	65 years and above.	TOTAL (NET).	St. Nicholas.	St. Thomas.	St. John's.	Stephenson.	Armstrong.	Elswick.	Westgate.	Arthur's Hill.	Benwell.	Fenham.	All Saints.	St. Andrew's.	Jesmond.	Dene.	Heaton.	Byker.			St. Lawrence.	St. Anthony's.	Walker.	Inward.	Outward.					
Brought forward	254	214	203	146	201	465	917	883	3283	231	189	175	95	168	383	829	863	2933	59	103	185	246	182	151	169	100	228	94	232	153	81	76	133	188	200	167	186	117	467	1334						
V.—DISEASES OF DIGESTIVE SYSTEM.																																														
Diseases of the Mouth and Annexa	1	2	1	3	..	1	1	2	1	..	1	1	4	2	5			
Diseases of the Pharynx, Tonsillitis	1	..	2	1	2	4	1	..	11	2	..	1	2	1	..	7	..	1	1	..	1			
Diseases of the Oesophagus			
Perforating Ulcer of Stomach	10	3	3	1	..	2	18	23	52	10	2	3	1	1	8	14	4	27	..	3	2	2	2	1	6	2	4	1	3	1	3	2	3			
Other Diseases of the Stomach, includ- ing Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh	54	15	69	49	13	62	3	..	4	7	6	4	2	..	3	3	2	5	..	1	1	2	9	4	6	..	7	23	..					
Dyspepsia	1	1	1	2			
Colic (under 2 years)	2	..	5	2	1	3	3	8	22	5	2	1	1	4	8	21	..	2	1	..	1	3	2	..	2	1	1	1	3	2	2	2	2	3	1	6	1					
Diarrhoea and Enteritis (2 years and over)	2			
Ulceration of the Intestines	3	8	10	..	21	1	3	3	5	2	7		
Duodenal Ulcer	4	11	12	11	11	4	53	2	2	2	3	5	2	16	..	1	1	1	2	2	1		
Appendicitis	15	1	5	4	15	13	22	75	8	..	1	1	1	5	4	13	33	3	1	1	3	3	1	1	3	2	2	1		
Hernia, Intestinal Obstruction	1	1	2	1	9	2	2		
Other Diseases of the Intestines	3		
Acute Yellow Atrophy of Liver	2	1	3	1		
Hydatid of Liver	1	1		
Cirrhosis of the Liver (Non-Alcoholic)	1	5	6	3	15		
Cirrhosis of the Liver (Alcoholic)	6	8	9	23	2	2	4	8	..	1	..	1	1		
Biliary Calculi	1	11	6	18	1	7	3	11	..	1	2	1	1		
Other Diseases of the Liver		
Diseases of the Spleen	7	1	3	4	
Peritonitis (cause unstated)	1	4	..	2	1	1	1		
Other Diseases of the Digestive System	1	3	4	8	1	
VI.—NON-VENEREAL DISEASES OF GENITO- URINARY SYSTEM AND ANNEXA.																																														
Acute Nephritis	1	..	1	2	2	5	10	3	24	1	..	1	1	4	8	3	19	..	1	..	4	..	2	2	1	..	4	6	7	9	3	1	2	8	1	3	10	6	27	10	48			
Bright's Disease	1	2	7	21	47	34	112	1	3	10	42	35	91	..	5	1	5	10	2	2	5	..	8	4	1
Other Diseases of the Kidney and Annexa	2	3	5	3	13	4	
Calculi of the Urinary Passages	1	3	..	4	2	
Diseases of the Bladder	2	4	3	9	1	1	2	4	
Diseases of the Urethra, Urinary Abscess, &c.	1	7	27	35	2	4	12	17	1	1	2	..	1	1	..	1	1	2	1	2	2	..	1	1	2	1	19	29	5				
Diseases of the Prostate	5	3	..	8	2	2	..	4	
Uterine Tumour (non-cancerous) .....	..	..	..	..	..	2	1	4	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..</																		

REPORT OF THE
MATERNITY AND CHILD WELFARE
MEDICAL OFFICER.

II.—THE CHILD.

INFANTILE MORTALITY, MATERNITY AND
CHILD WELFARE.

INFANTILE MORTALITY.

SUMMARY OF BIRTHS AND DEATHS, 1925.

	LEGITIMATE.			ILLEGITIMATE.			Grand Total.
	M.	F.	Total.	M.	F.	Total.	
Total Births in the Year ..	3,477	3,225	6,702	183	146	329	7031
Nett ,, ,, ,, 	3,096	2,905	6,001	121	93	214	6215
Nett Deaths under 1 year ..	298	224	522	13	15	28	550
Death Rate per 1,000 births	96	77	87	107	161	131	88

BIRTHS (CORRECTED) IN WARDS IN THE DIFFERENT QUARTERS OF THE YEAR 1925.

WARD.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	TOTALS.
St. Nicholas'	19	18	11	13	61
St. Thomas'	46	47	47	53	193
St. John's	100	114	89	103	406
Stephenson	141	113	122	116	492
Armstrong	86	102	114	75	377
Elswick	56	60	60	52	228
Westgate	104	81	82	83	350
Arthur's Hill	25	14	22	15	76
Benwell	115	140	128	121	504
Fenham	64	54	65	63	246
All Saints'	114	105	100	100	419
St. Andrew's	87	71	91	55	304
Jesmond	23	43	25	34	125
Dene	30	28	46	32	136
Heaton	80	60	64	67	271
Byker	110	103	112	104	429
St. Lawrence	128	160	127	146	561
St. Anthony's	119	118	110	108	455
Walker	127	162	136	157	582
CITY	1,574	1,593	1,151	1,497	6,215

DISTRIBUTION OF DEATHS.

WARDS.	Nett Deaths of Children under 1 year of age in 1925.					Children under 1 year of age— Death rate per 1,000 Births.	Birth Rate per 1,000 Popula- tion (cor- rected).
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Whole Year.		
St. Nicholas' ..	2	2	1	1	6	98	17·0
St. Thomas' ..	1	2	4	3	10	52	12·9
St. John's	10	14	12	15	51	126	25·4
Stephenson ...	12	17	10	12	51	104	24·6
Armstrong ...	17	18	5	4	44	117	22·8
Elswick	7	6	2	4	19	83	17·4
Westgate	7	8	6	3	24	69	21·6
Arthur's Hill .	7	4	1	..	12	158	7·5
Benwell	15	19	7	10	51	101	24·6
Fenham	7	6	1	3	17	69	20·0
All Saints'	9	8	8	13	38	91	23·0
St. Andrew's .	12	4	5	6	27	89	23·1
Jesmond.....	1	1	2	4	8	64	11·5
Dene	1	7	1	2	11	81	10·4
Heaton	5	3	5	4	17	63	18·1
Byker	5	5	7	13	30	70	23·5
St. Lawrence .	9	12	11	16	48	86	27·3
St. Anthony's .	13	9	9	8	39	86	25·6
Walker	9	8	8	22	47	81	33·9
CITY.....	149	153	105	143	550	88	21 6

All births and deaths occurring in Public Institutions have been allotted to the Wards to which they properly belong.

TABLE IV. OF MINISTRY OF HEALTH.

66A

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 2ND JANUARY, 1926.

CAUSE OF DEATH.	AGE PERIODS.																				Deaths in Institutions in the City of "Residents" or "Non-Residents"
	GROSS.										NETT (after allowing for transfers).										
	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	
I.—GENERAL DISEASES.																					
Measles	2	1	1	4	8	14	..	..	..	..	2	1	1	3	7	12	6
Whooping Cough	2	2	6	1	10	7	26	..	..	..	2	2	6	1	10	7	26	1
Croup
Influenza	1	1	..	..	..	..	..	..	..	..	1	1	..
Erysipelas
Pyæmia, Septicæmia	2	..	..	..	2	..	..	..	..	..	1	..	..	..	1	1
Tetanus	1	1	..	..	..	..	..	..	..	..	1	1	..
Pulmonary Tuberculosis (not acute).....	1	1	2	..	..	..	..	..	..	..	..	1	1	1
Acute Miliary Tuberculosis	1	..	..	1	..	..	..	..	..	..	1	..	..	1	1
Tuberculous Meningitis	1	2	3	..	..	..	..	..	..	..	..	1	1	2
Tuberculosis of Peritoneum and Intestines.....	1	..	..	1	..	..	..	..	..	..	1	..	..	1	..
TOTAL TUBERCULOSIS	2	2	3	7	..	..	..	..	..	..	2	..	2	4	4
Rickets, Softening of Bones	2	..	..	..	2	2	..	..	..	..	1	..	..	..	2	2	..
Syphilis	2	2	1	..	..	..	3	..	..	..	1	1	1	..	..	..	2	2
Scurvy	1	..	1	..	..	..	..	..	..	1	..	..	1	1
II.—DISEASES OF NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE.																					
Meningitis, undefined	1	2	1	4	..	..	..	..	..	..	..	2	1	3	2
Convulsions with Teething	1	1	2	1	5	..	..	..	..	..	1	1	2	1	5	..
Other Infantile Convulsions	8	3	1	3	15	9	6	3	1	34	7	3	1	3	14	8	6	3	1	32	3
Other Diseases of the Nervous System
Diseases of the Eye and Annexa	1	..	..	1	..	..	..	..	..	..	..	..	..	..	1
III.—DISEASES OF CIRCULATORY SYSTEM.																					
IV.—DISEASES OF RESPIRATORY SYSTEM.																					
Diseases of the Larynx
Bronchitis	4	1	3	8	16	14	6	7	51	..	4	1	3	8	14	15	5	7	49	4
Broncho-pneumonia.....	..	2	..	1	3	14	20	20	22	79	..	2	..	1	3	13	16	19	21	72	22
Lobar Pneumonia	1	..	..	1	..	..	2	1	4	..	1	..	..	1	..	..	2	..	3	2
Pneumonia (type not stated).....	1	..	..	..	1	4	1	1	9	16	..	..	..	..	..	4	1	1	9	15	1
Pleurisy	2	2	..	..	..	..	..	..	..	..	2	2	1
Pulmonary Congestion	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Carried forward.....	9	10	2	11	32	54	49	53	66	254	7	10	2	10	29	49	43	48	62	231	51

TABLE IV. OF MINISTRY OF HEALTH.—Continued.

RETURN OF DEATHS UNDER ONE YEAR OF AGE DURING THE 52 WEEKS ENDED 2ND JANUARY, 1926.

CAUSE OF DEATH.	AGE PERIODS.																				Deaths in Institutions in the City of "Residents" or "Non-Residents."
	GROSS.										NETT (after allowing for transfers).										
	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total under 1 Year of Age.	
<i>Brought forward</i>	9	10	2	11	32	54	49	53	66	254	7	10	2	10	29	49	43	48	62	231	51
V.—DISEASES OF DIGESTIVE SYSTEM.																					
Diseases of the Mouth and Annexa .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diseases of the Pharynx—Tonsilitis .....	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1
Other Diseases of the Stomach.....	1	..	1	..	2	5	1	2	..	10	1	..	1	..	2	5	1	2	..	10	1
Diarrhœa and Enteritis <i>including</i> Dysentery, Epidemic or Zymotic Enteritis, and Intestinal Catarrh .....	..	..	1	2	3	8	23	8	12	54	..	..	1	2	3	7	20	7	12	49	15
Dyspepsia .....	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	1	..
Colic .....	..	1	..	..	1	1	..	..	..	2	..	1	..	..	1	1	..	..	..	2	..
Appendicitis .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hernia, Intestinal Obstruction .....	..	1	..	..	1	..	8	4	2	15	..	1	..	..	1	..	5	1	1	8	11
Other Diseases of the Intestines .....	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Cirrhosis of Liver (Non-Alcoholic) .....	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1
VI.—NON-VENEREAL DISEASES OF GENITO-URINARY SYSTEM AND ANNEXA.																					
Acute Nephritis .....	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	..	..	1	..
VII.—DISEASES OF SKIN AND CELLULAR TISSUE.																					
Gangrene .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Carbuncle—Boil .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phlegmon, Acute Abscess .....	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	..
Diseases of the Integumentary System.....	..	..	..	2	2	..	..	1	..	3	..	..	..	1	1	..	..	..	..	1	2
VIII.—DISEASES OF BONES, &c.																					
Diseases of the Bones .....	..	..	..	..	..	..	2	..	1	3	..	..	..	..	..	..	1	..	..	1	3
IX.—MALFORMATIONS.																					
Congenital Malformations	12	7	1	3	23	13	4	1	2	43	9	5	..	3	17	4	2	1	2	26	23
X.—DISEASES OF EARLY INFANCY.																					
Premature Birth	112	12	8	2	134	6	..	..	..	140	93	10	7	2	112	6	..	..	..	118	35
Infantile Atrophy, Debility, and Marasmus.....	30	11	4	5	50	12	8	3	..	73	29	10	4	5	48	10	3	3	..	64	14
Icterus Neonatorum, Sclerema and Œdema Neonatorum .....	..	1	..	..	1	..	..	1	..	2	..	1	..	..	1	..	..	1	..	2	1
Diseases of Umbilicus	7	3	..	..	10	..	..	..	..	10	4	3	..	..	7	..	..	..	..	7	6
Atelectasis	21	..	..	..	21	..	..	..	..	21	14	..	..	..	14	..	..	..	..	14	15
Injuries at Birth	9	1	..	..	10	1	..	..	..	11	5	1	..	..	6	1	..	..	..	7	3
Lack of Care	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..	..	..	1	..
XI.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.																					
Burns (conflagration excepted) .....	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	1
Absorption of Deleterious Gases	1	..	1	..	2	..	..	..	..	2	1	..	1	..	2	..	..	..	..	2	..
Injury by Fall .....	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Homicide	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..	..	..	1	..
XII.—ILL-DEFINED CAUSES.																					
Ill-defined Causes	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..	..	..	1	..
Cause not stated.....	1	..	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..	..	..	1	..
TOTAL	206	47	18	25	296	102	97	74	86	655	167	42	16	23	248	84	76	63	79	550	185

ANALYSIS OF INFANTILE MORTALITY SINCE COMMENCEMENT OF ORGANISED MATERNITY AND CHILD WELFARE
WORK BY THE HEALTH DEPARTMENT.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Death-rate of Infants <i>under 1 year</i> per 1,000 births	177	139	166	155	138	153	126	139	122	123	137	101	122	137	133	123	113	107	120	101	96	92	98	100	88
Death-rate of Infants <i>under 3 months</i> per 1,000 births	83.8	74.8	84.9	82.6	71.6	75.6	68.6	76.6	64.8	66.9	71.5	60.3	67.7	70.7	68.2	66.2	58.7	58.6	64.1	62.1	61.0	57.2	54.4	59.0	53.4
Death-rate of Infants from <i>Premature Birth</i> , per 1,000 births	20.1	20.7	25.1	20.9	19.7	22.0	21.2	24.8	19.8	18.8	21.7	19.3	22.0	19.5	24.0	22.0	22.3	27.4	24.6	20.6	22.2	18.4	21.2	26.7	19.0
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Premature Birth</i> , plus all <i>Congenital Causes</i> *	40.8	51.7	62.1	60.6	52.1	61.5	43.0	44.6	42.3	42.6	43.9	48.0	57.4	51.1	56.6	51.0	46.0	45.3	51.5	43.1	39.0	34.8	41.5	45.5	38.6
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Diarrhoea and all other Digestive Diseases</i> †	45.7	12.8	26.9	21.8	22.4	35.2	12.7	24.8	13.5	16.7	25.1	7.8	16.6	25.3	20.1	14.3	14.8	11.9	14.7	14.9	16.0	9.1	11.5	9.6	11.6
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Infantile Atrophy, Debility and Marasmus</i>	15.8	19.8	30.8	29.2	24.4	31.4	11.1	10.6	14.6	13.5	22.7	21.4	25.6	23.0	25.0	22.4	17.7	13.0	18.0	16.9	13.0	9.4	11.5	9.5	10.3
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Measles</i> .....	..	..	..	..	..	5.35	2.60	0.60	3.64	2.26	4.95	3.61	2.28	4.65	6.90	2.50	2.46	0.77	3.89	0.99	2.88	0.29	4.87	1.10	1.9
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Whooping Cough</i> .....	..	..	..	..	..	3.42	7.30	5.73	4.30	5.05	7.35	2.78	5.50	5.20	5.17	4.10	3.70	6.65	0.60	3.1	3.7	1.6	5.3	1.9	4.2
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Respiratory Diseases</i> .....	..	..	..	..	..	20.8	24.6	27.0	24.4	25.2	26.4	20.4	22.2	30.6	24.9	28.0	27.0	20.9	27.6	26.9	18.7	32.0	23.6	27.9	22.7
Death-rate of Infants <i>under 1 year</i> per 1,000 births, from <i>Tuberculosis</i> (all forms) ....	..	..	..	..	..	3.53	3.71	4.65	4.55	4.25	2.40	3.20	3.88	3.88	3.40	2.60	1.54	2.63	1.80	1.36	1.51	1.29	2.2	1.6	0.6

For particulars of deaths, as to causes, etc., see Tables on pages 62A and 66A.

DEATHS OF CHILDREN UNDER SCHOOL AGE.

The mortality rate among children, aged 1 to 5 years, in 1925, per 1,000 births in the years 1921 to 1924 (inclusive) was 15.1. The corresponding figure for each of the previous four years was as follows:—1924, 13.8; 1923, 14.3; 1922, 13.8; 1921, 15.0.

Prior to 1911 figures uncorrected for cases belonging to other districts.

*“*All Congenital Causes*” includes Syphilis, Congenital Defects, and Diseases of Early Infancy.

†“*Diarrhoea and all other Digestive Diseases*” includes Diarrhoea, Dysentery, Epidemic or Zymotic Enteritis, Rickets, Diseases of the Stomach, Enteritis, Obstruction of Intestine, Peritonitis and other Diseases of the Digestive System.

DEATHS FROM “THE PUERPERAL STATE.”

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Population	217,862	255,160	257,113	259,082	261,065	263,064	265,077	267,261	269,193	271,295	271,523	278,107	278,107	278,107	278,107	275,009	286,061	278,400	281,600	283,800	285,900	286,300
Deaths	30	23	19	16	27	27	24	29	29	23	22	28	37	18	21	29	27	24	28	26	15	18
*Rate per 1,000 population	0.14	0.09	0.07	0.06	0.10	0.10	0.09	0.10	0.10	0.08	0.08	0.10	0.13	0.06	0.08	0.10	0.09	0.09	0.10	0.09	0.05	0.06
*Rate per 1,000 births	3.64	2.24	2.07	1.73	2.99	3.12	2.92	3.81	4.03	3.08	2.92	3.71	5.10	2.46	3.25	4.35	3.34	3.29	4.01	4.08	2.37	2.89

* From 1904 to 1911 the figures are uncorrected.

Report of the Maternity and Child Welfare Medical Officer.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

General.

With the close of the year 1925 it becomes possible to submit to you a brief review of the activities in the Maternity and Child Welfare Section during the first quinquennial period in which it has been a Municipal Scheme.

In the five years 1921-25 inclusive, 16,101 children of pre-school age were brought to the Centres 202,315 times. Every one of those children was weighed, examined and medically advised upon, and those found to be in need of treatment were referred—usually by letter—either, and preferably, to their family doctors, or to one or other of the Voluntary Hospitals or Dispensaries in the City. In the overwhelming majority of cases medical advice, and often treatment, was needed, and at one time or another every medical institution dealing with mothers or children in the City has been called upon by us to render some service to the poor children in our midst. This service was unfailingly and ungrudgingly given. Out of thousands of cases, in no single instance was treatment refused, and on many occasions it was given lavishly.

During the same period (1921-25) 1,844 expectant mothers attended the ante-natal clinics 4,938 times. The benefit to the community resulting from the above facts

will probably not be questioned, because it will be obvious to all that a child who is the subject of medical care and advice during the earliest period of its life is much more likely to grow into a healthy man or woman than one who is not ; so, also, the expectant mother who seeks medical advice during her pregnancy is much more likely to escape disaster than one who omits to take this very necessary precaution. The greatest importance is attached to the ante-natal period, not only because of its bearing on the welfare of the mother, but also because it is of vital importance to the child. During recent years attention has been forcibly and repeatedly called to the fact that while the infant mortality everywhere has very appreciably decreased, the mortality due directly and indirectly to childbirth remains unaffected, and in some instances has increased. Every opportunity therefore has been used to extend facilities in the City for giving skilled advice during the ante-natal period to those needing it, and the number of ante-natal sessions was increased from 74 in 1920 to 319 in 1925. In the five years under review the maternal mortality due directly or indirectly to childbirth in Newcastle has fallen irregularly from 3·29 (per 1000 births) in 1921 to 2·89 in 1925, and all the evidence points to a corresponding decrease in the mortality due to this particular cause.

Additional nourishment in the form of dried milk was given during the last three months of pregnancy to those in need of it, gratis to those unable to procure it in the ordinary way. Others were assisted with orders enabling them to buy milk at cost price. Regarding its influence on the welfare of the infant, the ante-natal period is chiefly significant as affecting the large number of infants who are either dead when they are born, or

who die at, or soon after, birth. These latter comprise nearly 50 per cent. of the infant mortality everywhere, and have always presented a problem difficult to solve. Owing to the peculiar circumstances, and the importance of protecting them from exposure to cold, it is very rarely possible to get these premature, and therefore feeble children, to the Centres in time to do them any good, and the only way to reach them seems to be through the mothers during the ante-natal period. The death rate in Newcastle among premature infants during the years 1921-25 was 21·5 (per 1,000 births), compared with 23·4 in the preceding five years, and that from premature birth plus all congenital causes of natal or neonatal death has fallen from 47·4 to 39·9 in the same periods. The death rate in the City of infants who died before they were three months old was 53·4 per 1,000 births in 1925, and this—like the total infant mortality rate—establishes the lowest record for the City.

Another serious condition which shews signs of improving is ophthalmia neonatorum, and the incidence of this disease in the City has dropped from 13·0 per 1,000 births in 1921 to 8·0 in 1925.

All notified cases, other than hospital in-patients, are promptly visited by members of the Health Visiting Staff, and of the 54 cases notified in 1925, 44 were visited 252 times.

Two new Centres—one in Walker and one in Scotswood—were added in 1923 to the nine previously existing, thus efficiently completing the district service of the City, and new and improved accommodation was secured in the districts of Diana Street and City Road. The Diana Street premises were originally used as a

school, but owing to undermining and subsidence they had been out of use for some time. After examination the Maternity and Child Welfare Committee decided to take the premises over from the Education Committee, and with slight structural alterations they became a first-class Centre. The new City Road Centre is held at the Princess Mary Maternity Hospital in Jubilee Road, and in November, 1923, the City Maternity and Child Welfare Medical Officer was invited by the Hospital Board of Management to join the Hospital Medical Staff as Honorary Medical Officer for Maternity and Child Welfare. In 1925 the City Council purchased the Wharncliffe Street Centre premises, thus definitely establishing the municipal scheme.

Morning sessions were added to afternoon sessions at eight of the Centres, and whole day sessions now prevail at ten out of the eleven Centres, the exception being Spital Tongues, where an afternoon session weekly is deemed sufficient. With increasing duties an increased staff became necessary, and three part-time medical officers and one girl clerk were added to the original staff of two and two respectively. An additional brand of dried milk was added in 1924 to the two makes previously distributed, and the three varieties now used by us are generally considered to be the best available. During the five years 1921-25, 148,015 lbs. of this milk were distributed gratis among the women and children attending the Centres, and 215,675 lbs. were sold on cost-price orders. Originally bought direct from the manufacturers and distributed from the Health Department through the Centres, the milk is now distributed by certain chemists whose business premises are conveniently accessible to residents in every district of the City, on official orders given at the Centres. In practice

this method of distributing the milk has been found to be very satisfactory, and while it entails paying the chemist a small sum for distributing, the method is probably the one open to least adverse criticism, and it is now being adopted by other towns.

Toddlers.

These, as the name implies, are children of pre-school age, who are no longer infants and who have found their feet and usually their tongues too. It is a very important stage in a child's life, and one fraught with a certain amount of danger on account of the relaxation of the maternal care which is, of necessity, bestowed on a child during its helpless infant period. The toddler runs about, and has no longer to be carried or wheeled ; for this reason he gets into mischief, and is frequently the victim of burning, scalding, or other accidents. He has teeth, too, and, in the words of his mother, " can eat anything," and unfortunately he often does so, with dire results. Although he may be less than two years old, he " gets the same as we," which usually includes tea—often strong—among many other unsuitable things. Experience in Newcastle proves that deterioration in health takes place in a very large number of these children, and often to an extreme degree. From the outset, therefore, they have been encouraged to attend the Centres, and as the following table shews, they are being brought in annually increasing numbers. In 1925 it was decided to devote the first Centre day in each month at every Centre entirely to the Toddler, and by permission of the Committee special scales were procured which allow of both weighing and measuring. In this way the growth of a child can be accurately gauged. In many towns—and London especially—

nursery schools are provided for these children, and give a valuable opportunity for early training. One such school is conducted by voluntary workers at St. Peter's Centre, and as opportunity occurs, similar schools will be commenced at other Centres.

TODDLERS ATTENDING THE NEWCASTLE CENTRES.

YEAR.	NUMBER OF CHILDREN.
1921	1,298
1922	1,361
1923	1,627
1924	1,726
1925	1,992

Births.

The City's birth rate continues to decline steadily, as will be seen from the following table :—

YEAR	BIRTHS.
1921	7,284
1922	6,987
1923	6,367
1924	6,335
1925	6,215

There can be little doubt in the minds of all who come into contact with women of child-bearing age that much of this decline is intentional, and is due to the obvious causes of (a) industrial distress, and (b) shortage of houses ; and of the two, the latter cause may be the chief.

Deaths.

550 of the City's children died before they had reached the completion of their first year of life, as compared with 632 in the previous year, and of this number, 248—or almost half—died before they were one month old. This last fact presents a problem which is difficult to solve, because of the children who died during the first month of life the overwhelming majority (167) died during the first week—that is before any public health influence could be brought to bear in their favour. The cause of death in many of these infants is obscure, but the principal stated cause is “Prematurity,” which accounted for 112 out of a total of 248. “Debility” and “Marasmus” are also prominent stated causes of early death. While all these terms are well recognised, none of them can be regarded as complete, and it is probable that further study and experience will some day reveal more accurate terms. There were no triplet children born during 1925, and the deaths among twin children numbered 50, compared with 73 in 1924.

It is not the least of many disadvantages of a multiple pregnancy that it increases the infantile mortality rate of the town concerned. Often enough the birth of another child in a poor home, which already possesses as many as can be provided for, is unfortunate, but when two or three arrive at the same birth it is something in the nature of a calamity, because so many of these latter almost inevitably die from feebleness or lack of necessary care and attention.

The number of deaths attributed to bronchitis and pneumonia was 141, as compared with 176 for 1924. The following table shows graphically what is set out above :—

	1923.	1924.	1925.
Deaths of children during first week	165	202	167
Deaths of children during first month	245	285	248
Deaths from Prematurity	135	169	118
Deaths of Twins and Triplets	61	73	50
Deaths from Pneumonia and Bronchitis	150	176	141

Sex Infant Mortality.—Of the 6,215 children who were born in the City during the year, 3,217 were boys and 2,998 were girls : that is there were 219 more boys than girls. In a previous report attention was drawn to the fact that although each year sees an excess of male births over female births, it also sees an excess of male infant deaths, which, unfortunately, is out of proportion to the birth excess ; and 1925 was no exception to the rule. Thus 311 boys (or 97 per thousand of those born) died during their first year, compared with 239 girls (or 80 per thousand births).

Welfare Centres.

The following table shows the geographical position of the Centres in the City, together with details of Centre days, etc. :—

Centre.	Address.	Women and Children.	Medical Officer.	Health Visitor.	Ante-Natal Sessions.
Benwell	Y.W.C.A. Club, Buddle Road	Monday	Dr. Glen Davison ...	Miss Willson....	Friday, 2 p.m. Mr. Harvey Evers.
Byker	Corner of Dalton Street and Shipley Street	Monday..... Friday, 10 a.m.	Dr. Spinks	Miss Moody	Friday, 2 p.m. Dr. Mabel Campbell.
City	Princess Mary Maternity Hospital, Jubilee Road	Wednesday...	Dr. Spinks	Miss Pritchard .	Thursday, 2 p.m. Mr. Harvey Evers.
Diana Street, Westgate ...	25, Diana Street	Tuesday	Dr. Spinks	Miss Smithson ..	Wednesday, 10 a.m. Mr. Harvey Evers.
Portland Street, Elswick .	Salvation Army Rooms, Portland Street	Thursday	Dr. Glen Davison ...	Miss Hatfield ..	Tuesday, 2 p.m. Mr. Harvey Evers.
Scotswood	Denton Road	Tuesday	Dr. Spence	Miss Hartwell ..	Benwell. V.S.
Shieldfield.....	St. Jude's Parish Hall, Dinsdale Road	Thursday	Dr. Spinks	Miss Medd	Byker. V.S.
Spital Tongues.....	Dunn's Cottages	Tuesday (Afternoon only)	Dr. Mabel Campbell	Miss Wigham ..	Diana St. V.S. or Wharnccliffe St. V.S.
St. Peter's	Corner of Glasshouse Street ...	Friday	Dr. Glen Davison ...	Miss Hopper....	Tuesday, 10 a.m. Mr. Harvey Evers.
Walker	Presbyterian Church Hall, Church Street	Friday	Dr. Nattrass.....	Miss Morton	Monday, 10 a.m. Monday, 2 p.m. Mr. Harvey Evers.
Wharnccliffe Street, Scotswood Road	18, Wharnccliffe Street	Wednesday...	Dr. Mabel Campbell	Miss Shell	Tuesday, 10 a.m. Dr. Mabel Campbell.

Centre Attendances.—It is impossible to exaggerate the importance of regular attendance at the Centres. A doctor can do a very great deal for a child whom he sees, but little or nothing for one whom he does not see. Not only is the health of Centre children better than that of non-Centre children, but it is practically certain that many children owe their lives to the fact that they were taken regularly by their mothers to the Centres. How else can one explain the widely common experience that the mortality among Centre children, even after allowing for ambiguities, is but a fractional part of the general infantile mortality rate—from a quarter to a third less in Newcastle?

In 1925 the attendances numbered 45,476, which for the first time is a decrease on the previous year. Each year the Centre attendances have increased, and 1925 would not have been an exception to this rule had it not been for the unusually severe weather experienced in the closing months of the year. Thus up to the end of November the attendances in 1925 were 509 more than for the corresponding period of 1924, but the frost, snow, and fogs of December turned this increase into a decrease of 310 for the whole year. But as will be seen from the following table, the number of individuals attending still continues to increase, and in 1925 3,355 children made their first attendance at the Centres, as compared with 3,234 in 1924.

Attendances at Maternity and Child Welfare Centres.

YEAR.	No. of Attendances.	No. of Individuals.	Average Attendance per Individual.	Average Attendance at each Session.
1920 ...	22,596	3,751	6·0	44·2
1921 ...	32,538	4,734	6·8	40·7
1922 ...	36,020	4,835	7·4	44·9
1923 ...	42,515	5,153	8·2	46·5
1924 ...	45,766	5,587	8·2	45·5
1925 ...	45,476	5,744	7·9	43·6

Ante-Natal Centres.—Additional ante-natal sessions were commenced at Diana Street, St. Peter's, and Portland Street Centres during the year, and from the outset they were met by a ready and gratifying response from all concerned. This is not work than can in any way be hurried ; the thorough examination of an expectant mother, with the necessary recording of conditions found, takes time, and it must be considered satisfactory that at the seven Ante-Natal Centres under the Corporation scheme, 679 mothers were examined and advised during the year.

It is certain that additional facilities for meeting the demand for this very important work will have to be provided in the immediate future.

Sewing and Knitting Classes.

Each Centre in the City has its one or more days every week which are set apart for the instruction of mothers in these useful arts, and the resulting benefit is substantial. One or other of the four professional teachers attends her particular Centre regularly, and at Shieldfield Centre the class is voluntarily taken by Mrs. Holmes, to whose kindness and self-sacrifice it is a pleasure to pay tribute.

Voluntary Workers.

One or more lady voluntary workers are now attached to each Centre, and all have given most freely of their services throughout the year. Mrs. Brackenbury—the President of the Voluntary Association—has kindly provided the following report:—

REPORT OF THE VOLUNTARY WORKERS AT THE CHILD WELFARE CENTRES FOR 1925.

There are about eighteen regular workers, and a few supplementary ones. Most of them attend on the sewing days only. In one or two centres the doctor's day and sewing day coincide, and this is in some ways the best ground for the voluntary worker, as she can get the new mothers to see and be interested in the needlework, and keep up a constant supply of fresh members.

The chief idea is to help the expectant mothers to prepare for the coming baby, and the young mothers to keep pace with the needs of their little children. Also to help them to renew and alter clothes for the older ones. The paid sewing teachers give instruction in cutting-out and direct the sewing, but most of the voluntary workers are also good needlewomen, and give much help in these bad times with pieces of material and partly worn garments, which they plan and alter with the mothers. The joint efforts of the two for the baby have led to many a friendship and understanding between the voluntary worker and the mothers at her Centre. Conversation goes on while the fingers are busy, and facts are gleaned by the voluntary workers as to needs and difficulties of the mothers in the home, which have often been alleviated.

We have one Nursery School at St. Peter's Centre, a most popular institution. It is held one morning a week, and is conducted by voluntary teachers, who are training or have trained with children. The mothers bring their children under school age with gratitude, and the latter are taught to play fairly, and do little exercises, sing, and enjoy themselves. They are obliged to be clean in habits and kindly in manners. Arrangements are being made to commence similar nursery schools at Diana Street and at Wharncliffe Street.

Simple cooking lessons are given by voluntary but experienced teachers. Lectures, talks, concerts, and teaparties are given, for all of which the voluntary worker is responsible. At one Centre, for three Christmases, all the members of the sewing class have clubbed together to make their plum puddings at the Centre, and the average amount made has been 40 lbs., and about 40 lbs. of mincemeat, costing from 7d. to 8d. a lb., with good and wholesome ingredients. Large quantities of jam were made in the summer which came out at a very low price by combining, and by gifts of fruit.

Sewing machines have been supplied at the Centres for the use of the mothers. Toys, too, are provided for the children, and little chairs and pens for the small ones to play in.

The voluntary workers subscribe yearly to the Rose Joicey Home at Whitburn, in order to send mothers and babies for a change to the sea, and to rest from household cares.

Jumble sales are held when possible, the goods being collected, priced, and sold by the voluntary workers to the mothers attending the centre. The competition for these things shows their value to the buyers.

The Citizens' Service Guild helps some of its cases by paying for all the material for the baby outfit to the Centres, if the mother will make it there. Several have been sent in this way to Wharncliffe Street lately.

Such things as work having been found for some, sad cases visited and looked after, people being put in touch with societies which have helped them, seem outside the scope of this report, but are very real considerations in trying to make their world better and happier. The summer garden parties and Christmas entertainments are much appreciated. I should like to mention the loyal co-operation of the sewing teachers, and the help they give in whatever the voluntary workers undertake for the mothers. The caretakers, too, never grudge extra work for the benefit of the mothers and babies, and join heartily in all the efforts made to please and instruct them.

Dr. Kerr, Dr. Spinks, Dr. Glen Davison, Dr. Harvey Evers and others, have spoken or written of the good work done by the voluntary workers, and the Ministry of Health in its Memo. 14 speaks of them as an addition to the equipment of a perfectly run scheme for Maternity and Child Welfare. The Voluntary Workers hope that the Maternity and Child Welfare Committee will support their efforts and the work they have been doing for the past 15 or 16 years, with no reward other than the satisfaction of helping their fellow-citizens and the little people who will be the future citizens of our town.

(Signed) WINIFRED BRACKENBURY,
Chairman of the Voluntary Workers' Committee.
 11th January, 1926.

NUMBER OF ATTENDANCES ON SEWING DAYS FOR 1924 AND 1925.

	1924.	1925.
Diana Street (Wednesday)	662	781
Do. (Thursday)	593	522
Benwell	412	483
Byker	622	551
City Road (Wednesday).....	723	895
Do. (Thursday)	507	737
Portland Street	733	765
Scotswood	624	581
Shieldfield	247	249
Spital Tongues.....	527	694
St. Peter's.....	895	696
Walker	461	468
Wharnccliffe Steret.....	277	254
TOTAL	7,283	7,676

The worst attendances have always been in June and December.

Lectures.

Various lectures or papers relating to Maternity and Child Welfare have been given during the year, among the most important being those at the Sectional Meeting of the Royal Sanitary Institute, held in Newcastle in January, when critical papers were read by the Maternity and Child Welfare Medical Officer, and by Mr. Harvey Evers.

During Health Week short lectures to fathers were given at some of the Centres in the evenings, and Mr. Harvey Evers gave a series of post-graduate lectures to Midwives and Health Visitors, which were very instructive and highly appreciated.

Dried Milk.

The following table shews the quantity of dried milk distributed each month during the year :—

MONTH.	FREE. lbs.	AT COST PRICE. lbs.
January	3,076	3,693
February	2,858	3,581
March	3,848	4,488
April	2,842	2,762
May	3,140	3,174
June	2,973	2,824
July	3,409	4,582
August	3,179	4,296
September	3,362	5,468
October	2,173	4,077
November.....	1,925	4,056
December	2,220	4,157
	35,005	47,158

Number of children attending Centres :—5,744.

Number of children who were given free milk :—
1,441 or 25 per cent. of those who attended the Centres.

Number of children who received orders for milk at
cost price only :—1,525, or 26 per cent.

Of the total amount given free :—

33,703 lbs. were given to children.

1,302 lbs. were given to 204 expectant mothers.

MATERNITY AND CHILD WELFARE CENTRES, 1925

MONTH.	Ante-Natal Sessions.	Ante-Natal.		Post-Natal.		New Children.			Individuals.			Attendances.		Medical Sessions.	
		Attendances.	Individuals.	Attendances.	Individuals.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Number.	Average.
January	20	142	95	12	10	213	49	262	1036	666	1702	2101	1252	84	39.9
February	21	149	99	10	7	237	36	273	1085	724	1809	2322	1322	84	43.3
March	30	189	118	15	12	259	49	308	1195	776	1971	3006	1719	105	45.0
April	19	103	75	7	6	189	31	220	1077	659	1736	1960	1051	71	42.4
May	24	142	95	16	14	232	39	271	1127	727	1854	2348	1277	84	43.1
June	15	102	90	16	14	193	26	219	1069	680	1749	1736	986	54	50.4
July	26	202	135	14	12	347	47	394	1334	827	2161	2802	1451	90	47.2
August	30	178	121	11	8	292	49	341	1353	851	2204	2701	1419	88	46.8
September	40	287	179	12	10	319	90	409	1471	1024	2495	3619	2017	115	49.0
October	32	243	166	14	10	209	54	263	1344	906	2250	2710	1414	92	44.8
November	32	226	161	19	14	187	41	228	1191	787	1978	2260	1185	92	37.4
December	30	172	127	7	5	143	24	167	998	686	1684	1793	1025	84	33.5
Total ..	319	2135	679	153	36	2820	535	3355	3752	1992	5744	29358	16118	1043	43.6

MATERNITY AND CHILD WELFARE CENTRES, 1925.

CENTRE.	Anti-Natal Sessions.		Ante-Natal.		Post-Natal.		New Children.			Individuals.			Attendances.			Medical Sessions.		Individuals.		
	Attendances.	Individ- uals.	Attendances.	Individ- uals.	Attendances.	Individ- uals.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Under 12 months	Over 12 months	Total.	Number.	Average Attendce.	Illegiti- mate.	Boys.	Girls.
Benwell	47 437	128	..	..	..	..	320	61	381	419	200	619	3154	1502	4656	92	50.60	14	332	287
Byker.....	47 271	103	52	24	409	259	335	74	409	457	259	716	3082	1660	4742	115	41.23	25	352	364
City .....	..	..	..	..	278	197	223	55	278	303	197	500	2226	1924	4150	98	42.34	18	268	232
Diana Street	42 223	79	20	..	432	248	354	78	432	489	248	737	3727	1867	5594	117	47.81	23	367	370
Portland Street	22 100	30	..	..	300	210	244	56	300	337	210	547	2726	1692	4418	97	45.54	11	306	241
Scotswood .....	..	..	..	..	146	109	123	23	146	164	109	273	1433	1088	2521	94	26.81	18	141	132
Shieldfield .....	..	..	..	..	330	183	289	41	330	364	183	547	3102	1504	4606	97	47.48	13	285	262
Spital Tongues .....	..	..	..	..	94	44	83	11	94	115	44	159	967	255	1222	47	26.00	2	91	68
St. Peter's.....	22 81	30	4	..	316	179	277	39	316	364	179	543	3136	1819	4955	94	52.71	18	277	266
Walker	92 709	207	65	4	390	217	324	66	390	398	217	615	3126	1559	4685	94	49.84	25	311	304
Wharncliffe St.	47 314	102	12	8	279	146	248	31	279	342	146	488	2679	1248	3927	98	40.07	16	256	232
Total ..	319 2135	679	153	36	3355	1992	2820	535	3355	3752	1992	5744	29358	16118	45476	1043	43.60	183	2986	2758

SUMMARY OF CENTRE REPORT, 1925.

<i>Total Sessions, all Medical</i>	1,043	Average attendance at each	43·6
<i>Total Individuals</i>	5,744	Average visits per individual	7·9
<i>Total Ante-Natal Sessions</i>	319	Average attendance at each	7·2
<i>Total Ante-Natal and Post-Natal Individuals</i>	715	Average visits per individual	3·2
<i>Benwell Ante-Natal Sessions</i>	47	Average attendance, 9·2 ; average visits per individual	3·4
<i>Byker Ante-Natal Sessions</i>	47	Average attendance, 6·8 ; average visits per individual	2·5
<i>Diana St. Ante-Natal Sessions</i> ..	42	Average attendance, 5·7 ; average visits per individual	3·0
<i>Portland St. Ante-Natal Sessions</i>	22	Average attendance, 4·5 ; average visits per individual	3·3
<i>St. Peter's Ante-Natal Sessions</i> ...	22	Average attendance, 3·8 ; average visits per individual	2·8
<i>Walker Ante-Natal Sessions</i>	92	Average attendance, 8·4 ; average visits per individual	3·6
<i>Wharncliffe St. Ante-Natal Sessions</i>	47	Average attendance, 6·9 ; average visits per individual	2·9
<i>Illegitimate Children Attending</i> ..	183		

DEATHS.—Owing to the difficulty of getting accurate information on the point, I think it advisable not to quote any figures under this heading ; suffice it to say that the number of deaths among children attending the Centres is incomparably less than that among children who do not attend the Centres. (Thus in 1925 there were 159 deaths among our Centre children, which gives a death rate of 27·7, as compared with 88·0 for the City generally.)

SEWING AND KNITTING CLASSES, 1925.

CENTRE.	SUBJECT.	TEACHER.	DAY.	Attend- ance.	Sessions.	Average.
Benwell	Sewing and Knitting	Miss Crawford	Thursday	483	51	9.5
Byker	Sewing and Knitting	Miss Whipp	Friday	551	48	11.5
City	Knitting	Miss Whipp	Wednesday.....	1632	90	18.1
City	Sewing	Miss Stokoe	Thursday			
Diana Street	Sewing	Miss Stokoe	Wednesday.....	1303	97	13.4
Diana Street	Knitting	Miss Whipp	Thursday			
Portland Street ...	Sewing and Knitting	Miss Robson.....	Tuesday	765	47	16.3
Scotswood	Sewing and Knitting	Miss Whipp	Tuesday	581	47	12.4
Shieldfield.....	Sewing	Mrs. A. Holmes	Tuesday	249	46	5.4
Spital Tongues.....	Sewing	Miss Stokoe	Monday.....	694	47	14.8
St. Peter's	Sewing	Miss Robson.....	Wednesday.....	696	56	12.4
St. Peter's	Knitting	Miss Crawford	Wednesday.....			
Walker	Knitting	Miss Crawford	Friday	468	45	10.4
Wharnccliffe Street .	Sewing and Knitting	Miss Crawford	Tuesday	254	47	5.4

Notification of Births Acts.

Of the 7,031 births (gross) which were registered in the City in 1925, 4,988, or 70·9 per cent. were notified as follows :—

Notified by.	Living Births.		Still-Births.
Medical Practitioners	888	..	31
Midwives	2067	..	42
Maternity Hospital	1743	..	60
Wingrove Hospital	68	..	6
Gables Maternity Home	200	..	5
Parents	22	..	..
	<hr/> 4,988 <hr/>		<hr/> 144 <hr/>

Still-Births.

Of the total notifications of births received, still-births were in the following proportion :—

Year.	Percentage.	Year	Percentage.
1920	3·0	1923.....	3·0
1921	2·9	1924.....	2·7
1922	3·0	1925.....	2·9

Five burials were reported by the Superintendents of Cemeteries, and the number of still-births notified was 144.

Details of 133 of the above still-births which were visited by members of the staff :—

Duration of Pregnancy.—At or under 7 months, 25, or 18% ; at or under 8 months, 31, or 23% ; at full time, 77, or 57%.

Suggested causes of the still-births :—

	Cases.
(a) Ill-health of the mother	50
(b) Foetal deformities and malpre- sentations	32
(c) Premature delivery	32
(d) Other causes	39

The following table shows the position in the family of the still-born child :—

	Cases.		Cases.
1st child	34	4th child	16
2nd child	23	5th child	6
3rd child	14	6th child	40

In 110 cases it was the first still-birth, in 15 the second, in 1 the third, and in 7 cases there were more than three previously still-born.

Syphilis was returned as a cause of death in 2 children below the age of 1 year.

Health Visitors.—14 Health Visitors, including the Chief Health Visitor, were engaged solely in Maternity and Child Welfare Work up to June, 1925, when four extra Health Visitors were appointed, bringing the total to 18.

5,770 births were visited, and 26,686 re-visits were paid, an average of nearly 5 visits per child. These give a total of 32,456 visits to children under 1 year.

WORK OF HEALTH VISITORS.
SUMMARY OF VISITS.

	Primary.	Subsequent.	Total.
Births	5,770	26,686	32,456
Measles	5,261	6,363	11,624
Pneumonia	822	1,306	2,128
Diarrhoea	115	283	398
Children over One Year .....	....	....	3,678
Hospital Cases .....	....	....	234
Expectant Mothers .....	....	....	777
Special Visits .....	....	....	777
	....	....	52,072

The addresses of 159 children who left the City were sent to the Medical Officers of Health for the districts to which they had gone to reside.

Summary of Infants on Visiting List:—

Of 5,398 children born in the City in 1924, 4,371 completed their first year in 1925, and of the remainder:

482 died,

254 left the City,

262 disappeared and could not be traced,

29 were visited only once.

The following figures are therefore based on the 4,371 who completed the first year, *plus* the 482 who died, making in all a total of 4,853.

Influence of Housing Conditions.

During the 18 years, 1908—1925, 65,422 births have been under the supervision of the Health Visitors, and of these 7,598 died. The following table shows the numbers of births and deaths in the various classes of house :—

YEAR.	HOUSES OF							
	1 Room.		2 Rooms.		3 Rooms.		4 Rooms or more.	
	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths
1908.....	247	32	515	57	312	32	13	2
1909.....	339	53	694	86	168	32	29	3
1910.....	536	62	723	68	51	4	7	2
1911.....	462	68	794	79	77	6	20	1
1912.....	465	48	746	60	110	6	25	1
1913.....	241	40	348	28	91	3	17	3
1914.....	245	36	375	31	90	11	25	3
1915.....	631	104	2,140	306	1,416	144	692	74
1916.....	611	121	2,333	343	1,584	180	756	85
1917.....	730	104	2,199	284	1,349	150	776	84
1918.....	607	90	2,018	270	1,285	144	766	83
1919.....	664	111	2,056	306	1,358	188	810	102
1920.....	843	167	2,155	291	1,529	171	1,052	121
1921.....	1,263	140	2,523	234	1,651	134	1,036	88
1922.....	1,223	159	2,267	241	1,342	97	655	61
1923.....	1,357	149	2,187	243	1,155	86	637	54
1924.....	1,440	188	1,946	200	1,096	100	666	62
1925.....	1,395	151	1,803	192	1,001	89	654	50
18 years ..	13,299	1,823	27,822	3,319	15,665	1,577	8,636	879
Death rate per 1,000 births		137.1		119.3		100.2		101.8

The mortality per 1,000 births in 1925 was as follows :—

1 roomed dwellings	108
2 roomed dwellings	106
3 roomed dwellings	89
Dwellings over 3 rooms	76

Feeding of the 4,853 children under supervision was stated to be as follows :—

	Breast. %	Mixed. %	Artificial. %
Children who <i>survived</i> first year ; feeding during first month	94·6	1·3	4·1
Children who <i>died</i> during first year ; feeding during first month.....	82·5	5·8	11·7
Children who <i>survived</i> first year ; feeding at nine months	53·2	18·6	28·1
Children who <i>died</i> during first year ; feeding at time of death	69·2	8·2	22·4
Feeding of 43 children who died from enteritis	21·4	19·0	59·6

Illegitimacy.—214 illegitimate children were born ; of these 28 died, a death-rate of 131 per 1,000, as compared with 88 for all births.

MIDWIVES ACTS, 1902 and 1918.

During the year 35 midwives notified the Local Supervising Authority of their intention to practise in the City, and of these 31 held the examination certificate of the Central Midwives Board, and four were registered as having been in *bona fide* practice before the passing of the Midwives Act. Two *bona fide* Midwives died, and 6 possessing the Central Midwives Board Certificate left the district.

Inspections—258 visits were paid by the Superintendent of Midwives to the homes of certified midwives for the purpose of inspecting midwifery bags and appliances, and to ascertain that the necessary records

of their work were being satisfactorily kept, also to investigate cases of ophthalmia neonatorum, septicæmia, or other abnormalities occurring in their practices. In addition, 167 visits were paid to midwives' cases on account of some abnormal condition. The results of these inspections were generally satisfactory.

The clothing and appliances of six midwives were disinfected after being in contact with puerperal septicæmia and one after scarlet fever.

Three handy-women were interviewed as to conduct, and, on investigation, it was found that they had acted in emergencies.

Births attended by Midwives.—2,067 living births and 42 still-births were attended by midwives during the year; these figures show an increase of 221 in the former and a decrease of 3 in the latter. Midwives attended 33 per cent. of the total births in the City, as compared with 27 per cent. in 1924, and 27 per cent. in 1923.

Lectures to Midwives.—Fortnightly meetings of midwives practising in the City were held in the Health Department. Discussions took place and midwives were kept up-to-date with regard to new requirements and general progress. The closest co-operation and loyalty exist between the midwives practising in the City and the staff of the Health Department, and midwives are encouraged to send their cases to the ante-natal clinics. Much benefit was derived by those mothers who were sent, as well as by the midwives concerned.

A post graduate course of six lectures with practical demonstrations was given by Mr. Harvey Evers to midwives and Health Visitors. These lectures were given at Diana Street Centre, and were highly appreciated and of the greatest value to those who attended.

Notices for Medical help sent to Local Authority by the Midwives :—

FOR THE MOTHER.		<i>During Puerperium—</i>	
<i>During Pregnancy—</i>		Rise of Temperature.....	13
Ante Partum Hæmorrhage ...	7	Fits	1
Abortions	10	Undefined Illness of Mother ..	16
	<hr/>		<hr/>
	17		30
		Total calls for mother	<hr/>
			164
			<hr/>
<i>During Labour—</i>		FOR CHILD.	
Uterine Inertia	49	Prematurity	41
Malpresentations	8	Discharging Eyes	19
Contracted Pelvis	4	Cyanosis	1
Retained Placenta	7	Congenital Defects	8
Placenta Prævia	1	Convulsions, etc.	1
Post Partum Hæmorrhage ...	8	Illness of Baby	14
Ruptured Perineum	40		<hr/>
	<hr/>		84
	117	Total calls for mother and child	<hr/>
			248
			<hr/>

In 12 per cent. of the midwives' cases the services of a doctor were requisitioned.

Claims from Doctors for Fees in respect to calls from Midwives, viz. :—

	Cases.
For forceps delivery.....	42
For post partum hæmorrhage	7
For illness of mother	18
For illness of child	16
For premature birth	8
For discharging eyes	5
Other	22
	<hr/>
Total cases	118
	<hr/>

Nine claims for *payment of midwives' fees* were received.

Ophthalmia Neonatorum.—The number of cases notified was 54, of which 44 were visited, the remainder being cases occurring in Hospital, or admitted to Hospital from outside areas. This number is a decrease of 6 on that for 1924. The confinements were attended by:—

Doctors	28
Midwives.....	7
Maternity Hospital.....	17
	—
	52
	—

In two cases the children were born outside Newcastle area, and were sent into the Royal Victoria Infirmary for treatment, and notified from there as suffering from ophthalmia neonatorum. Two other cases which occurred in the Princess Mary Maternity Hospital were non-resident in the City.

252 visits were paid to the 44 cases in the City, and the ultimate results were:—

Recovered completely	40
Partially Blind	1
Died	2
Left District	1
	—
	44
	—

The *ophthalmia incidence* per 1,000 births for the last five years has been as follows:—

1921	13·0
1922	9·9
1923	11·0
1924	8·0
1925	8·0

Puerperal Septicæmia.—25 cases of this disease were notified during the year, 12 of which were from outside the City area and were admitted to Hospitals in the City. Of the remaining 13 the following table shows the attendance at birth :—

Doctors.....	7
Midwives	4
Princess Mary Maternity Hospital Staff	2
<hr/>	
Total	13
<hr/>	

Deaths during the Puerperal Period.—During the year 18 deaths occurred in the City during the puerperal period, and the following table gives the causes and a comparison with the two previous years :—

CAUSES.	1925	1924	1923
Abortions	1	1	3
Accidents of Pregnancy	1	..	..
Puerperal Hæmorrhage.....	1	..	5
Other Accidents of Child-birth	2	6	1
Puerperal Fever	4	6	10
Puerperal Albuminuria and Convulsions	8	2	5
Puerperal Phlegmasia	1	..	2
	18	15	26

I am, Sir,

Your obedient servant,

A. F. G. SPINKS, M.D.,
Maternity and Child Welfare Medical Officer.

*Health Department,
Town Hall,
Newcastle-upon-Tyne,
1st July, 1926.*

INCLUDING REPORTS OF THE
RESIDENT MEDICAL OFFICER OF THE
INFECTIOUS DISEASES HOSPITAL
AND THE BACTERIOLOGIST.

III.—INFECTIOUS DISEASE.

FEVERS, FOOD POISONING,
CITY HOSPITAL FOR INFECTIOUS DISEASES,
DISINFECTION, BACTERIOLOGY.

INFECTIOUS DISEASES.

NUMBER OF CASES PER 1,000 POPULATION IN 1925.

DISTRICT.	ATTACK-RATE PER 1,000 POPULATION.						
	Small-pox.	Typhus	Scarlet Fever.	Diphtheria.	Enteric Fever and Continued Fever.	Puerperal Fever.	Erysipelas.
England and Wales	0·14	..	2·36	1·23	0·07	0·06	0·39
NEWCASTLE-UPON-TYNE	0·28	..	4·17	0·65	0·05	0·06	0·67
Hull	0·19	..	1·41	1·68	0·09	0·04	0·40
Leeds .....	..	..	2·47	0·89	0·02	0·11	0·68
Bradford .....	..	..	1·90	1·20	0·04	0·08	0·47
Sheffield.....	0·08	..	2·43	1·56	0·08	0·17	0·74
Manchester .....	..	..	3·78	1·37	0·09	0·17	0·54
Salford .....	..	..	2·08	1·53	0·12	0·07	0·54
Liverpool.....	..	..	4·22	1·77	0·04	0·06	0·62
Nottingham	0·07	..	2·30	1·16	0·07	0·05	0·42
Leicester	0·20	0·00	3·40	1·40	0·02	0·03	0·50
Stoke-on-Trent .....	..	..	3·57	1·03	0·03	0·12	0·59
Birmingham	0·00	..	1·96	2·08	0·03	0·15	0·40
Cardiff	0·004	..	1·40	0·89	0·02	0·08	0·40
Bristol .....	..	..	3·89	2·95	0·06	0·19	0·66
Portsmouth.....	..	..	4·22	3·29	0·20	0·02	0·26
†London	0·00	..	2·65	2·71	0·09	3·82‡	0·42
Gateshead	0·68	..	3·04	1·06	0·03	0·06	0·43
South Shields	0·08	..	3·28	0·43	0·09	0·03	0·29
Tynemouth	0·03	..	1·90	0·54	0·18	0·09	0·52
Sunderland	0·02	..	1·05	0·64	0·05	0·05	0·62
Middlesbrough	6·65	..	3·15	0·55	0·01	0·03	0·55
†Northumberland	1·51	..	3·00	0·49	0·08	0·02	0·34
†Durham	0·98	..	3·37	0·87	0·08	0·04	0·50

† Administrative County.

‡ Per 1,000 births.

DEATHS (CORRECTED) FROM NOTIFIABLE INFECTIOUS DISEASES
AND NON-NOTIFIABLE ZYMOTIC DISEASES, EXCLUSIVE OF TUBERCULOSIS

WARD.	Diph- theria.	Ery- sipelas.	Scarlet Fever.	Typhus Fever.	Enteric Fever.	Cere- bro- Spinal Fever.	Enceph- alitis Lethar- gica.	Polio- myelitis	Measles.	Puer- peral Fever.	Small- pox.	Whoop- ing Cough.	Zy- motic Diarr- hoea (under 2 years of age).	Chicken Pox.
St. Nicholas'	..	..	1	..	..	..	..	..	4	..	..	..	3	..
St. Thomas'	..	..	..	..	..	..	..	..	5	..	..	1	..	..
St. John's	..	1	1	..	..	..	..	..	2	..	..	7	4	..
Stephenson	1	2	..	..	1	..	..	..	10	..	..	7	7	..
Armstrong	..	..	..	..	..	..	2	..	17	..	..	18	6	..
Elswick	..	..	..	..	1	..	2	..	5	..	..	2	4	..
Westgate	2	..	..	..	..	..	2	..	4	..	..	4	2	..
Arthur's Hill	..	..	..	..	..	..	1	..	2	..	..	1	..	..
Benwell	1	2	1	..	..	..	..	..	12	..	..	5	3	..
Fenham	..	..	1	..	..	..	..	..	5	..	..	2	3	..
All Saints'	..	..	1	..	..	..	..	..	7	1	..	3	2	1
St. Andrew's	1	..	1	..	..	..	1	..	7	1	..	4	5	..
Jesmond	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dene	..	..	..	..	..	..	..	..	..	..	..	1	2	..
Heaton	..	..	1	..	..	..	1	..	1	..	..	2	1	..
Byker	..	..	1	..	..	..	1	..	3	1	..	4	2	..
St. Lawrence	1	..	2	..	..	..	1	..	5	..	1	6	9	..
St. Anthony's	1	..	2	..	1	..	..	..	13	..	..	3	6	..
Walker	..	..	2	..	..	..	3	..	12	1	..	6	6	..
CITY	7	5	14	..	3	..	14	..	114	4	1	76	65	1

Note:—All deaths in Public Institutions have been allotted to the Wards to which they properly belong.

For particulars of deaths from **TUBERCULOSIS** see pages 62A and 149 to 157

NOTIFIED CASES OF INFECTIOUS DISEASE,

EXCLUSIVE OF TUBERCULOSIS.

AGES OF CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1925. (TABLE II. OF MINISTRY OF HEALTH.)

NOTIFIABLE DISEASE.	AT AGES—YEARS.								GROSS TOTAL (ALL AGES).		*NET CASES.
	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and up- wards.	Ages not known.	1925.	1924.	
									1925.	1924.	
Diphtheria (including Mem- branous Croup)	2	66	78	32	9	3	..	7	197	265	187
Erysipelas	3	5	8	28	48	73	25	10	200	160	193
Scarlet Fever	14	276	697	160	63	5	..	16	1231	816	1196
Typhus Fever . . . . .	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever . . . . .	..	..	6	9	12	1	..	..	28	29	15
Cerebro-Spinal Fever . . . . .	..	1	1	..	..	..	..	..	2	5	2
Acute Poliomyelitis . . . . .	..	5	1	2	..	..	..	..	8	2	6
Acute Polio-Encephalitis . . . . .	..	1	..	..	..	..	..	..	1	..	1
Encephalitis Lethargica . . . . .	..	2	8	13	10	11	..	3	47	124	39
Measles and Rubella	351	3365	2203	65	35	5	..	26	6050	3504	6030
Puerperal Fever . . . . .	..	..	..	5	20	..	..	..	25	20	13
Ophthalmia Neonatorum	54	..	..	..	..	..	..	..	54	60	50
Pneumonia	120	305	220	104	136	98	30	5	1018	1205	960
Trench Fever . . . . .	..	..	..	..	..	..	..	..	..	1	..
Dysentery . . . . .	..	..	..	..	..	..	..	..	..	..	..
Malaria . . . . .	..	..	..	1	4	..	..	..	5	..	5
Smallpox	1	7	30	17	12	14	3	..	84	5	81
Chicken Pox	103	501	923	28	15	2	..	64	1636	791	1624
TOTALS	648	4,534	4,175	464	364	212	58	131	10,586	6,987	10,402

* Cases from outside the City excluded for the purpose of calculating NET death rates.

WARD DISTRIBUTION OF INFECTIOUS DISEASES (NET).
(TABLE II. OF MINISTRY OF HEALTH.)

WARD.	Diphtheria.	Erysipelas.	Enteric Fever.	Scarlet Fever.	Cerebro-Spinal Fever.	Poliomylitis.	Acute Polio-Encephalitis.	Encephalitis Lethargica.	Measles.	Rubella.	Puerperal Fever.	Ophthalmia Neonatorum.	Acute Primary Pneumonia.	Acute Influenzal Pneumonia.	Smallpox.	Trench Fever.	Chicken Pox.	Malaria.	TOTAL.
St. Nicholas'	..	..	..	3	..	..	..	..	60	4	..	..	7	..	..	..	6	..	80
*St. Thomas'	17	11	6	57	..	1	..	4	191	17	..	..	37	..	1	..	47	1	392
St. John's	7	7	..	47	..	..	..	2	303	5	..	..	64	2	1	..	109	..	552
Stephenson	10	16	3	27	..	..	..	3	435	12	..	..	65	3	3	..	111	1	600
Armstrong	15	9	..	59	..	1	..	2	545	35	..	..	54	4	15	..	135	2	881
Elswick	9	9	1	45	..	..	..	3	281	38	1	..	10	3	2	..	91	..	498
Westgate	12	9	..	66	..	1	..	3	301	23	2	..	30	1	1	..	101	..	550
†Arthur's Hill	4	23	..	44	..	1	..	1	161	7	1	..	66	..	2	..	21	..	331
Benwell	13	21	..	97	..	..	..	..	673	35	1	..	89	2	21	..	107	..	1067
Fenham	5	12	..	63	..	..	..	..	390	26	..	..	21	2	9	..	55	..	585
All Saints'	9	13	..	92	..	..	..	..	218	12	1	3	129	4	7	..	108	..	596
St. Andrew's	4	7	1	39	..	..	..	1	120	4	1	3	38	..	5	..	45	..	268
Jesmond	1	1	..	43	..	..	1	2	84	6	..	2	5	2	3	..	29	..	179
Dene	8	2	1	43	..	..	..	..	141	7	..	1	7	1	1	..	38	..	250
Heaton	8	7	..	78	1	..	..	3	105	2	1	4	27	..	4	..	69	..	309
Byker	12	12	..	109	1	..	..	2	262	10	1	2	34	1	2	..	123	1	572
St. Lawrence	17	10	1	119	..	1	..	4	301	3	..	1	39	2	4	..	111	..	613
St. Anthony's	9	6	..	41	..	..	..	2	409	5	1	1	63	4	..	..	70	..	611
‡Walker	27	18	2	124	..	1	..	7	791	8	3	5	143	1	..	..	248	..	1378
CITY	187	193	15	1196	2	6	1	39	5771	259	13	50	928	32	81	..	1624	5	10,402

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children.

† Poor Law Institution and Wingrove Hospital.

‡ City Hospital for Infectious Diseases, Walker Gate.

For particulars of cases of TUBERCULOSIS, see Section IV.

WARD INCIDENCE OF INFECTIOUS DISEASES (Net).

EXCLUSIVE OF TUBERCULOSIS.

NOTIFIABLE DISEASES—Cases per 1,000 Population.																	DEATHS per 1,000 Pop.		
WARD.	Diphtheria	Erysipelas.	Scarlet Fever.	Enteric Fever.	Cerebro-Spinal Fever.	Polio-myelitis.	Acute Polio- encephalitis.	Encephalitis Lethargica.	Measles (including Rubella).	Puerperal Fever.	Smallpox.	(Chickenpox.	Ophthalmia Neonatorum.	Pneumonia.	Malaria.	Measles. (including Rubella).	Whooping Cough.	Zymotic Diarrhoea (under 2 years of age).	
St. Nicholas' ..	..	..	0.84	..	..	..	..	..	17.8	..	..	1.67	..	1.95	..	1.11	..	0.84
*St. Thomas' ..	1.14	0.74	3.84	0.40	..	0.07	..	0.27	14.0	..	0.07	3.16	0.13	2.49	0.07	0.34	0.07	..	
St. John's	0.44	0.44	2.95	..	..	..	..	0.13	19.3	..	0.07	6.83	0.31	4.14	..	0.13	0.44	0.25
Stephenson ...	0.50	0.80	1.35	0.15	..	..	..	0.15	22.4	..	1.15	5.56	0.05	3.40	0.05	0.50	0.35	0.35
Armstrong	0.91	0.55	3.57	..	..	0.06	..	0.12	35.1	..	1.91	8.18	0.30	3.51	0.12	1.03	1.09	0.36
Elswick	0.69	0.69	3.44	0.07	..	..	..	0.23	24.4	0.07	0.15	6.96	0.38	0.99	..	0.38	0.15	0.30
Westgate	0.74	0.56	4.09	..	..	0.06	..	0.19	20.1	0.12	0.06	6.26	..	1.92	..	0.25	0.25	0.12
†Arthur's Hill ..	0.40	2.28	4.36	..	..	0.10	..	0.10	16.6	0.10	0.20	2.08	..	6.54	..	0.20	0.10	..
Benwell	0.64	1.03	4.75	..	..	..	..	..	34.7	0.05	1.03	5.24	0.39	4.46	..	0.59	0.24	0.15
Fenham	0.41	0.98	5.13	..	..	..	..	..	33.9	..	0.73	4.48	0.16	1.87	..	0.41	0.16	0.24
All Saints'	0.49	0.72	5.07	..	..	..	..	..	12.7	0.05	0.39	5.96	0.16	7.34	..	0.39	0.16	0.11
St. Andrew's ..	0.30	0.53	2.97	0.07	..	..	..	0.07	9.4	0.07	0.38	3.43	0.23	2.89	..	0.53	0.30	0.38
Jesmond	0.09	0.09	3.96	..	..	..	0.09	0.18	8.3	..	0.28	2.67	0.18	0.64	..	..	..	..
Dene	0.62	0.15	3.31	0.08	..	..	..	..	11.4	..	0.08	2.93	0.08	0.62	..	..	0.08	0.15
Heaton	0.54	0.47	5.22	..	0.07	..	..	0.20	7.2	0.07	0.27	4.62	0.27	1.81	..	0.07	0.13	0.07
Byker	0.66	0.66	6.00	..	0.06	..	..	0.11	14.9	0.06	0.11	6.74	0.11	1.92	0.06	0.16	0.22	0.11
St. Lawrence ..	0.83	0.49	5.80	0.05	..	0.05	..	0.19	14.8	..	0.19	5.41	0.05	2.00	..	0.24	0.29	0.44	
St. Anthony's ..	0.51	0.34	2.34	..	..	..	..	0.11	23.6	0.06	..	4.00	0.06	3.83	..	0.74	0.17	0.34
†Walker	1.58	1.05	7.24	0.12	..	0.06	..	0.41	46.6	0.17	..	14.47	0.29	8.40	..	0.70	0.35	0.35	
CITY	0.65	0.67	4.17	0.05	0.007	0.02	0.003	0.14	21.1	0.04	0.28	5.67	0.17	3.35	0.02	0.40	0.27	0.23	

* Includes Royal Victoria Infirmary and Fleming Memorial Hospital for Sick Children. † Includes Poor Law Institution and Wingrove Hospital.
 ‡ Includes City Hospital for Infectious Diseases, Walker Gate.

For Particulars of TUBERCULOSIS, see table on page 157.

HOUSEHOLDS AFFECTED WITH INFECTIOUS DISEASES,
EXCLUSIVE OF TUBERCULOSIS, MEASLES AND CHICKEN-POX.

DISEASES.	HOUSEHOLDS WITH						Mili- tary or Naval Cases	Public Insti- tutions *	TOTAL CASES. (Gross).	Cases from outside of City.	NET CASES.
	Single Cases	2 Cases each	3 Cases each	4 Cases each	5 Cases each	6 Cases and over					
Diphtheria (including Mem- branous Croup).....	152	8	1	..	..	..	..	26	197	10	187
Erysipelas	161	2	..	..	..	..	..	35	200	7	193
Scarlet Fever	843	109	19	6	1	..	..	84	1231	35	1196
Enteric (or Typhoid Fever) ..	8	1	..	..	..	..	..	18	28	13	15
Cerebro-Spinal Fever	2	..	..	..	..	..	1	2	4	2	2
Poliomyelitis.....	5	..	..	..	..	..	..	2	8	2	6
Polio-Encephalitis	1	..	..	..	..	..	..	..	1	..	1
Encephalitis Lethargica	37	..	..	..	..	..	..	10	47	8	39
Puerperal Fever	13	..	..	..	..	..	..	12	25	12	13
Ophthalmia Neonatorum	50	..	..	..	..	..	..	4	54	4	50
Pneumonia	818	36	4	..	..	..	..	116	1018	58	960
Smallpox	55	8	1	..	..	1(7)	..	3	84	3	81
Malaria	5	..	..	..	..	..	..	..	5	..	5
TOTAL	2150	164	25	6	1	1	1	312	2902	154	2748

* See next page.

Schools and Infectious Disease.—It was not found necessary to close any school on account of infectious disease during the year.

PUBLIC INSTITUTIONS AND INFECTIOUS DISEASE.

The following notifications were received during the year :—

INSTITUTIONS, &c.	Diphtheria.	Erysipelas.	Scarlet Fever.	Encephalitis Lethargica.	Measles and Rubella.	Puerperal Fever.	Pneumonia.	Chicken-pox.	Ophthalmia Neonatorum.	Enteric Fever.	Poliomylitis.	Cerebro-Spinal Fever.	Small-Pox.	* TOTAL.
Royal Victoria Infirmary....	15	4	25	9	14	7	58	4	2	16	2	1	2	159
Fleming Memorial Hospital...	4	3	20	..	22	..	..	4	..	..	..	..	1	54
War Pensions Hospital .....	..	..	3	1	..	..	1	..	..	..	..	..	..	5
Wingrove Hospital	3	20	10	..	48	..	51	..	..	..	..	..	..	132
City Hospital for Infectious Diseases (Staff)	1	..	12†	..	..	..	..	1	..	..	..	..	..	13
Deaf and Dumb Institution .	..	..	1	..	4	..	..	..	..	..	..	..	..	6
St. Cuthbert's Grammar School .....	..	..	2	..	..	..	..	..	..	..	..	..	..	2
Maternity Hospital .....	..	2	4	..	..	5	..	..	2	..	..	..	..	13
Throat and Ear Hospital ...	1	6	3	..	..	..	..	..	..	..	..	..	..	10
Military Barracks	1	..	1	..	..	..	4	..	..	..	1	..	..	7
Northern Counties Orphanage	1	..	..	..	..	..	..	..	..	1	..	..	..	2
St. Vincent's Home .....	..	..	..	..	..	..	1	..	..	..	..	..	..	1
Lady Stephenson Orphanage	..	..	3	..	11	..	1	..	..	..	..	..	..	15
Nazareth House.....	..	..	..	..	..	..	..	..	9	..	..	..	..	9
Elswick Lodge .....	..	..	..	..	2	..	..	..	..	..	..	..	..	2
TOTAL	26	35	84	10	101	12	116	18	4	16	3	1	3	430

* Does not include any cases belonging to the City which could properly be assigned to their homes.
† Includes 2 from Tyne Port Sanitary Authority.

MILK SUPPLY IN RELATION TO INFECTIOUS DISEASES.

The source of the milk supply was ascertained in every case of fever and diphtheria. In no instance was there reason to suspect that milk was responsible for the conveyance of infection.

18 cases of scarlet fever and 7 cases of diphtheria occurred at business premises of various kinds, as shown in the following tables :—

SCARLET FEVER.

Fried Fish Shop....	1	Ice Creamery	1	Farm	2
Boarding House ...	2	Newsagent	1	Licensed Premises..	3
Baker and Confectioner	4	General Dealer.....	1	Coal Dealer.....	2
				Fruiterer	1

DIPHTHERIA.

Licensed Premises .	1	Draper.....	1	Dairy.....	4
Undertaker.....	1				

SCARLET FEVER.

Notifications of 1196 cases were received during the year, and there were 14 deaths, which is equivalent to a mortality of 1·2 per cent. The type of the disease was mild on the whole.

DIPHTHERIA.

187 cases were notified during the year, and 7 died, a case mortality of 3·7 per cent.

Antitoxin was distributed free to medical practitioners in the City as follows :—

Number of medical practitioners who made application for antitoxin	33
Number of phials of antitoxin supplied	143
Number of cases of diphtheria notified	187
Number of notified cases removed to Hospital	176
Number of Hospital cases in which antitoxin was injected prior to admission	40

The fatality of the disease in recent years is shown in the subjoined table :—

Year.	DIPHTHERIA CASES. (All Forms.)	
	Number.	Case Mortality (per cent.).
1909	456	12·7
*1910	443	9·0
1911	507	7·5
1912	501	6·6
1913	368	7·6
1914	362	7·7
1915	275	9·5
1916	272	10·3
1917	226	14·6
1918	250	9·2
1919	320	6·9
1920	348	6·9
1921	353	6·2
1922	254	5·9
1923	200	5·0
1924	256	6·6
1925	187	3·7

* Antitoxin first distributed gratis April, 1910.

Particulars of the type of the disease as noted in cases sent to hospital will be found later in the section dealing with the City Hospitals.

MEASLES AND RUBELLA.

6,030 cases (including 259 of rubella) were notified, and there were 114 deaths (corrected) in 1925, representing a death rate of 0·40 per 1,000 population, as compared with 0·21 in 1924, and a case mortality of 1·89 per cent. of notified cases (Net).

DEATHS, 1925 (CORRECTED).

MONTH.	YEARS OF AGE.							Total.
	0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	Over 10.	
January	1	5	4	1	1	1	..	13
February ...	1	3	1	..	..	..	..	5
March .....	..	3	5	1	2	1	..	12
April	5	17	7	3	1	5	..	38
May	2	13	5	4	..	..	..	24
June	1	7	3	..	..	..	..	11
July	1	2	..	..	..	..	..	3
August .....	..	1	..	..	..	..	..	1
September ..	1	..	1	..	..	..	..	2
October ....	..	1	..	1	..	..	..	2
November...	..	2	..	..	..	..	..	2
December ..	..	1	..	..	..	..	..	1
TOTAL ...	12	55	26	10	4	7	..	114

The following table shows the deaths in the various wards, and at different age periods :—

WARD.	Under 3 months.	3 and under 6 months.	6 and under 9 months.	9 and under 12 months.	1 and under 2 years.	2 and under 3 years.	3 and under 4 years.	4 and under 5 years.	5 and under 10 years.	Over 10 years.	TOTALS.
St. Nicholas'	3	..	1	..	..	..	4
St. Thomas'	1	3	..	1	..	..	..	5
St. John's.....	..	1	..	..	..	..	..	..	1	..	2
Stephenson	1	1	5	1	..	..	..	..	8
Armstrong	1	8	8	2	..	..	..	19
Elswick.....	1	1	1	1	1	..	5
Westgate	1	1	1	1	..	..	..	4
Arthur's Hill	1	1	..	..	..	..	2
Benwell	2	5	2	1	1	1	..	12
Fenham	3	..	..	..	2	..	5
All Saints'	5	..	1	..	1	..	7
St Andrew's	5	2	..	..	..	..	7
Jesmond
Dene
Heaton	1	..	..	..	..	..	..	..	1
Byker	2	..	..	1	..	..	3
St. Lawrence	1	..	..	..	2	1	1	..	..	..	5
St. Anthony's	1	3	6	1	1	1	..	13
Walker	1	..	8	3	..	..	..	..	12
TOTAL	1	1	3	7	55	26	10	4	7	..	114

Each Health Visitor visited and revisited selected cases occurring in her district. By this arrangement each case is seen immediately on receipt of the notification, and advice is given regarding the nursing and isolation

of the patient. The cases are kept under supervision until they recover, and should subsequent cases occur in the family they are recorded.

Measles Cases, including Rubella, notified during 1925.

Cases notified by Medical Practitioners	4,595
Cases found by Health Visitors	1,403
Cases notified by Parents	30
Cases found from Returns of Deaths	2
	<hr/>
	6,030
	<hr/>

Of the total number of measles cases notified, 5,261, in 3,896 households (or 86·9 per cent.) were visited by the Health Visitors, and 6,363 revisits were paid.

The following particulars refer to the cases visited :—

	DWELLINGS OF					Total houses visited.
	1 room.	2 rooms.	3 rooms.	4 rooms.	More than 4 rooms.	
Families	696	1,341	1,036	591	232	3,896
Children	1,673	4,067	2,891	1,440	577	10,648
Cases	974	1,840	1,416	731	*300	5,261
Percentage of Cases to						
Children	58	45	49	51	52	49
Cases developing Pneumonia	50	82	29	9	6	176
Percentage of cases develop-						
ing Pneumonia	5·2	4·4	2·0	1·2	0·3	3·3
Deaths from Measles	25	46	8	5	1	85
Cases notified as Measles, Death certified as due to Pneumonia, Bronchitis or Convulsions	6	16	10	1	1	34
Case Mortality per cent. ...	3·1	3·2	1·2	0·8	0·6	2·2

* In addition to the 300 cases, 688 cases were reported in better-class houses and were not visited. Amongst these 2 deaths occurred, so that the actual mortality rate in houses of over 4 rooms was 0·4 per cent.

Medical Attendance.—In 97 per cent. of the cases visited a doctor was in attendance.

Condition of Patient.—In 87 per cent. of the cases visited the disease ran a normal course, but bronchitis, pneumonia or other complications developed in the remainder.

Attendance at Schools.—1,693, or 32·1 per cent. of the affected children visited had previously attended school, and 3,568, or 67·8 per cent. had never attended school. In 2,060 of these latter cases, however, or 39·1 per cent. of the total cases, other children from the infected houses were scholars.

The following were the ages of children (visited) suffering from measles :—

Under 1 year	335
1-2 years	724
2-3 years	736
3-4 years	823
4-5 years	811
5-6 years	930
Over 6 years	902
	<hr/> 5,261 <hr/>

WHOOPIING COUGH.

76 deaths occurred from whooping cough. The particulars are as follows :—

MONTH.	YEARS OF AGE.						Total.
	0-1.	1-2.	2-3.	3-4.	4-5	5-10.	
January .....	..	1	1	1	..	..	3
February	5	1	..	..	..	..	6
March	2	4	1	..	1	..	8
April	5	4	6	1	..	..	16
May	6	3	3	1	1	..	14
June	6	7	1	2	1	..	17
July .....	..	2	2	..	..	..	4
August .....	..	1	..	1	..	..	2
September .....	..	..	..	..	..	..	..
October .....	..	..	..	1	..	..	1
November	2	1	..	..	..	..	3
December .....	..	2	..	..	..	..	2
Total	26	26	14	7	3	..	76

The death rate in 1925 was equivalent to 0·27 per 1,000 population, as compared with 0·10 in 1924.

ENTERIC FEVER.

15 cases were notified during the year, 3 of which died, giving a death rate of 0·01 per 1,000 population, and a case mortality of 20·0 per cent.

28 cases of enteric fever were discovered in the City during the year. 12 of these patients had been admitted to the Royal Victoria Infirmary and 1 to a private nursing home in the City from the districts enumerated below. They were transferred to Walker Gate after the diagnosis of typhoid fever had been confirmed.

Newbiggin	2
Morpeth R.D.	3
Stockton	1
Winlaton	1
Bedlington	1
Boldon Colliery	1
South Shields.....	1
Longbenton	1
Whickham,	1
Leadgate	1

The remaining 15 cases occurred in Newcastle. Four were members of the nursing and domestic staffs of the Royal Infirmary. The infection in these cases had probably been contracted while attending on the "imported" cases mentioned above. In 10 other cases no definite source of infection could be ascertained; they resided in different parts of the town, and only in one case could the infection be traced from one patient to another, this instance being where two brothers successively contracted the disease.

Bacteriological examination showed the causal organism to be B. Typhoid in 10 cases, and B. Paratyphoid B. in 18.

There were 3 deaths ; these were all of the B. Typhoid group.

DIARRHŒA.

There were in all 86 deaths from the disease, equal to a death rate of 0·30 per 1,000 population, and this number included 65 deaths of children under two years of age.

TYPHUS.

No case of this disease occurred during the year.

SMALLPOX.

There were 84 cases of smallpox notified during the year (three of them being non-residents of the City), with one death, equal to a death rate of 0·003 per 1,000 population, and a case mortality of 1·2 per cent.

The source of infection in 27 cases was traced directly to areas outside the City boundary, and these patients were responsible for the indirect secondary infection of nearly the whole of the 57 remaining persons who became infected.

The majority were of the so-called “ mild ” type, and while this description certainly does apply to the present type of disease in comparison with the old virulent form, yet it is a fact that most of these “ mild ” cases actually suffered more both from systemic disturbance and discomfort of the rash than does the average patient suffering from the present type of scarlet fever, measles, chickenpox, diphtheria, etc. None of the cases showed severe disfigurement on discharge from hospital, although most of them will bear some evidence in the form of pock-marks for many years to come.

The patient who died was an unvaccinated child, and sister of a previous case. She was already very ill with broncho-pneumonia and empyema, and it is probable that the addition of smallpox merely hastened the end.

In connection with these cases 2,140 direct contacts were kept under supervision by the Sanitary Inspectors until the incubation period of the disease for each individual contact had expired; and in addition 315 contacts were detained in the smallpox hospital— isolation side—for varying periods. Visits were also paid by the inspectors to the homes of 849 unvaccinated school children, and the parents were advised to give their children the protection afforded by vaccination.

The outstanding point indicated by the year's toll of smallpox is that in no case did the disease attack any person who had been successfully vaccinated during the preceding 17 years. It is probable, therefore, that the immunity conferred by vaccination against the present type of the disease has a much longer duration than against the more severe form of previous outbreaks.

The following are the particulars, courteously furnished by the Clerk to the Guardians, of infant **Vaccination** in Newcastle during recent years. (Walker, which belongs to the Tynemouth Rural area for registration purposes, is not included).

Year.	Births Registered.	Successful Vaccinations	Unsuccessful Vaccinations	Exemption Certificates.	
				Number.	Percentage to Total Births
1905	7,958	7,264	27	65	0·8
1906	7,721	6,733	28	92	1·2
1907	7,610	6,702	16	94	1·2
*1908	7,747	6,414	20	449	5·8
1909	7,180	5,667	30	517	7·2
1910	7,023	5,532	22	683	9·7
1911	6,604	5,002	24	767	11·6
1912	6,715	4,625	18	982	14·6
1913	6,874	4,441	7	1,173	17·0
1914	7,023	4,230	11	1,499	21·2
1915	7,116	4,487	1	1,485	20·9
1916	7,117	4,405	9	1,509	21·2
1917	6,166	3,688	5	1,478	24·0
1918	6,092	3,488	15	1,362	22·4
1919	6,131	3,405	8	1,582	25·8
1920	7,955	4,403	45	2,074	26·7
1921	7,258	4,159	11	2,128	29·3
1922	6,936	3,556	16	2,116	30·5
1923	6,417	4,464	—	1,373	21·4
1924	6,481	3,967	6	1,121	17·3
1925	6,403	4,069	14	952	14·8

* Vaccination Act, 1907, came into force.

The *Public Vaccinators* and *Vaccination Officers* for the various districts of the City are :—

Dene, Heaton and Byker Municipal Wards :—

DR. J. MACRAE, 4, Benton Terrace.
Deputy—DR. A. SUTCLIFFE, 1, Lesbury Road.

St. Anthony's and St. Lawrence Municipal Wards :—

DR. RICHARD DAGGER, 1, Rothbury Terrace.
Deputy—DR. ERIC C. DAGGER, 1, Rothbury Terrace.

Walker District :—

DR. T. J. RYAN, Welbeck Road.
Deputy—DR. WM. HUTCHINSON, Welbeck Road.

All Saints', St. Nicholas', St. Andrew's, Jesmond, and St. Thomas' Municipal Wards :—

DR. FRANK HAWTHORN, 10, Ellison Place.
Deputy—DR. O. W. OGDEN, 4, St. Mary's Terrace.

Fenham, Arthur's Hill, Westgate and St. John's Municipal Wards :—

DR. A. M. PATERSON, 1, Grove Street.
Deputy—DR. H. L. TAYLOR, 242, Westgate Road.

Stephenson, Elswick, Armstrong and Benwell Municipal Wards :—

DR. G. D. NEWTON, 115, New Bridge Street.
Deputy—DR. H. A. NEWTON, 16, Denton Road, Scotswood.

Wingrove Hospital :—

DR. G. P. HARLAN.

Vaccination Officers :—

Western—W. J. WHITE, 104, Meldon Street.
 Eastern—WM. GARRETT, 34, Harbottle Street.

ERYSIPELAS.

193 cases of this disease were notified and there were 5 deaths.

PUERPERAL SEPTICÆMIA.

13 cases were notified, with 4 deaths. Inquiries were made concerning all of these. 7 of the cases were attended by doctors.

INFLUENZA AND PNEUMONIA.

These diseases accounted for 407 deaths as against 520 last year.

Total deaths at age periods.

Under 5 years.	5-15.	15-25.	25-45.	45-65.	65 and over.	Total.
207	22	22	47	65	44	407

As will be seen from the above figures, 207, or 51 per cent., of the deaths occurred below the age of 5 years.

Appended is a statement of the total net deaths at all ages in the City from influenza and pneumonia during 1925 and the previous 13 years :—

YEAR.	INFLUENZA.	PNEUMONIA.
1912	18	248
1913	19	339
1914	22	424
1915	22	433
1916	36	392
1917	27	418
1918	680	540
1919	604	561
1920	90	468
1921	65	411
1922	273	495
1923	15	342
1924	105	415
1925	41	366

960 cases of pneumonia, including influenzal-pneumonia, were notified. For the ages and ward distribution, see pages 99 and 100.

Of that number 822, or 85·6 per cent., were visited by Health Visitors.

It was found that of these 822 visited cases, 644, or 78·3 per cent., were primary pneumonia, 64, or 7·7 per cent., were cases of influenzal-pneumonia, and 114, or 13·8 per cent., were cases of pneumonia following other diseases.

Sex.—57 per cent. of the cases were males.

Ages.—The ages of the 822 cases visited were as follows :—

Under 1 year.....	115
1-5 years	285
5-15 years	182
15-25 years	70
25-45 years	92
45-65 years	61
and over 65 years	17
	<u>822</u>

Of these, 134 were school children.

Housing.—182 cases occurred in 1 roomed dwellings, 329 cases occurred in 2 roomed dwellings, 175 cases occurred in 3 roomed dwellings, and 136 cases occurred in more than 3 roomed dwellings.

Type of House.—370 cases occurred in flats, 347 cases in tenements, and 105 in self-contained houses.

Previous History—

There was a previous history of Measles	in 328 cases.
„ „ „ Whooping Cough	in 126 cases.
„ „ „ Influenza	in 54 cases.
„ „ „ frequent winter Coughs and Colds	in 663 cases.
„ „ „ Pneumonia	in 468 cases.
„ „ „ Tuberculosis	in 4 cases.

Deaths.—146, or 17·7 per cent. of the visited cases of pneumonia died.

VENEREAL DISEASES.

Syphilis was certified as the cause of death in 7 cases.

The work of the treatment clinic has been continued successfully. 1,500 old and new cases attended 26,115 times as out-patients. 9 cases accounted for 447 in-patient days. Of the 879 new cases 286 were syphilis, 466 gonorrhœa, 34 soft chancre, and 93 conditions other than venereal. 76 per cent. were males.

1,627 doses of salvarsan substitutes were administered to out-patients, and 11 to in-patients.

1,970 Wasserman reactions were carried out at the College of Medicine, and 132 microscopical examinations of pathological material were made at the College and 912 at the treatment clinic. The irrigation stations for males and for females in connection with the clinic have been in full use during the year.

Newcastle Residents Notified as Attending other Centres.

Cases.—Syphilis, 8 ; gonorrhœa, 5 ; soft chancre, 1 ; conditions other than venereal, 2.

Attendances.—153.

Doses of salvarsan substitute given, 56.

38 medical practitioners in the City are qualified to receive free supplies of arseno-benzol compounds. 18 made application for these supplies during the year and 156 doses were given.

Information as to ophthalmia neonatorum will be found on page 93.

ENCEPHALITIS LETHARGICA.

47 cases of encephalitis lethargica, including 39 Newcastle residents, and 8 extra-mural patients, were notified as having occurred in the City during the year.

While the incidence was considerably less than half that of the epidemic of 1924, yet the clinical type was of equal severity, the case mortality being 36 per cent., compared with 24 per cent. last year.

This disease had not gained general recognition as a definite clinical entity until 1916-17, and there is no doubt that previously the ranks of other nervous affections had been swelled by the addition of these so-called cases of "Sleepy Sickness."

In view of the continued prevalence, and the serious after-effects of the disease, a survey has been made of all cases notified in the City from 1919-1925. The following table sets out for each year the number of notifications, the number of recoveries and deaths, and the number living, but with mental or nervous impairment :—

Year.	No. of Cases.	Recovered.	Deaths.	Mental or Nervous Impairment	Removed ; Address Unknown.
1919.....	1	..	1	..	..
1920.....	8	..	4	4	..
1921.....	18	6	6	5	1
1922.....	4	2	1	..	1
1923.....	4	..	3	..	1
1924.....	124	39	35	39	11
1925.....	47	17	18	12	..
TOTAL	206	64	68	60	14

The greatest number of cases were notified during the months of February, March, April, and May. All ages appear to have been prone to the infection, although, as the following table indicates, young adults showed a greater proportion of victims.

AGE GROUPS.

Under 1 year	1
1 to 2 years.....	1
2 to 3 „	4
3 to 4 „	8
4 to 5 „	4
5 to 10 „	24
10 to 15 „	31
15 to 25 „	58
25 to 45 „	49
45 years and over	26
	<hr/> 206 <hr/>

With its varied symptomatology, classification of the disease into definite types is somewhat difficult, and not altogether reliable. The occurrence in the same patient of more than one type of the disease is frequently met with. In the subjoined analysis of the records of 187 patients, such cases are grouped under the heading of the type of which the symptoms were the more predominant :—

	NO. OF CASES.	DEATHS.
Ocular	24	2
Myoclonic	35	9
Lethargic	58	16
Myoclonic and Lethargic	23	14
Parkinsonian.....	26	9
Cerebral	21	15
	<hr/> 187 <hr/>	<hr/> 65 <hr/>

Treatment has been almost invariably of merely a palliative nature. In numerous cases where acute delirium has been present, restraintive measures have had to be resorted to, and in these cases also a fairly liberal administration of such sedatives as hyoscine and morphine have been found essential to provide the worn-out, yet struggling, patient with the rest of which he has been in such great need.

In every case lumbar puncture was performed, and usually this was done without an anæsthetic. This withdrawal of cerebro-spinal fluid and the resultant reduction of pressure upon the brain and spinal cord, has produced marked beneficial effects in many cases. Where lethargy has been the prominent symptom the patient, after quite a short while, has frequently thrown off some of his sleepiness, and for a time, at any rate, has taken a little more interest in life. In others, where acute maniacal symptoms have prevailed, the diminished pressure of the fluid upon the brain appears to have rendered the patient a little more rational. Providing there was no contra indication, the operation was repeated every alternate day during the acute stage of the disease.

Bacteriological examination of the cerebro-spinal fluid was undertaken in all cases, and at any rate served to confirm each diagnosis and to dispel any doubt as to the presence of other forms of meningitis.

Investigation of the housing conditions of the families in which encephalitis lethargica made its appearance revealed even less than is found with most other infectious diseases. On an average, the number of persons comprising the family of the patient was 5·8; the number of persons living in the same house was 5·5; and the average number of rooms in the houses occupied by these patients was 3·4.

Undoubtedly overcrowding and bad economic conditions played their part in predisposing to the disease, but it is significant that only in three cases was there definite evidence that the disease had been transmitted from a patient to another member of the same family. In short, considering the sporadic nature of the disease, the virus appears to be of low infectivity, and yet the individual, once infected, is liable to a very acute and severe illness. There is apparently some factor, possibly impaired metabolism, associated with increased susceptibility, which has a determining influence upon the infection; but this has yet to be explained.

It will be seen from the general table that in 60, or 30 per cent. of the total 206 patients, the destruction of nervous tissue was so great as to leave some degree of mental or nervous deficiency. In 9 cases this defect has persisted since 1920 and 1921. It is therefore reasonable to assume that the majority of the 51 patients of 1924-1925, all of whom show some impairment after periods varying from six months to $2\frac{1}{2}$ years, will continue to do so for many more years to come.

According as the destructive process in the brain is trivial or extensive, or involves the less important nerve elements, the great nerve tracts, or the various groups of highly specialised brain cells, so does the

symptomatology of this disease show considerable variation in its manifestations. Thus in slight cases the after-effects have been no more serious than nervousness, irritability, or neuritis. Too often, however, the effects have been much more severe, and paralysis, imbecility, and conditions producing acts of criminal violence, have been the legacies left by this brain infection.

The following table indicates the more important after-effects of encephalitis lethargica among the 60 cases under consideration. It will be noted that for the purpose of brevity the classification is made under the headings of individual symptoms and signs, and not under the numerous combinations of these defects as they occurred in different patients. Eight of the cases suffered from after-effects of such a severe nature as to require their admission to mental hospitals.

Eye changes (Diplopia, Ptosis, Squint, inequality of Pupils, Nystagmus, etc.).....	20
Blindness	1
Changes in Speech	9
Involuntary micturition	4
Limb paralysis	3
Symptoms of Neurasthenia or Melancholia, usually associated with lethargy	31
Excitability and Insomnia	23
Headaches (in conjunction with other symptoms).....	30
Definite mental impairment	17
Parkinsonian syndrome	6
Vicious temperament	1
Committed suicide	1

The above bare statement of after-effects among the survivors gives only a very incomplete conception of the gravity of this disease. If in addition the 68 patients who died had been so unfortunate as to have suffered from a less severe attack of encephalitis, it is highly probable that instead of the present 60 people with mental or nervous disabilities the number would have risen to well over half the total persons affected.

ACUTE POLIOMYELITIS, EPIDEMIC CEREBRO-SPINAL MENINGITIS, ETC.

NUMBER OF CASES.

TOTAL NO. OF CASES. (NET).	0-1 Year.						1-5 Years.						5-10 Years.						10-15 Years.						15 Years and Over.					
	Male.			Female.			Male.			Female.			Male.			Female.			Male.			Female.			Male.			Female.		
	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.	Cases.	Deaths.	Permanent Paralysis.
6	..	..	..	..	..	..	1	..	..	2	..	1	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..
1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	1	1	..	6	..	2	1	..	14	4	3	15	6	4	..
CASSES REMOVED TO ISOLATION HOSPITAL.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

	27	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1	..	5	..	1	1	..	10	5	2	9	5	1	..
	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<div>Acute Poliomyelitis.</div> <div>Polio-Encephalitis.</div> <div>Cerebro-Spinal Fever.</div> <div>Encephalitis Lethargica.</div> <div>Acute Poliomyelitis.</div> <div>Polio-Encephalitis.</div> <div>Encephalitis Lethargica.</div> <div>Cerebro-Spinal Fever.</div>																														

CITY HOSPITALS FOR INFECTIOUS DISEASES.

Accommodation.

NAMES AND SITUATION OF HOSPITALS.	TOTAL AVAILABLE BEDS.
City Hospital for Infectious Diseases, Walker Gate (including Phthisis Pavilions, 62 Beds)	294
Smallpox and Isolation Hospitals, Town Moor	172

City Hospital, Walker Gate.

YEAR.	Population of the City.	Number of Beds at Hospital for Fever Cases.	Total Admissions (exclusive of Phthisis and Smallpox).	Percentage of Scarlet Fever, Diphtheria and Enteric Fever Cases Admitted to Cases Notified.
1890	182,866	104	219	21·3
1900	213,039	104	290	38·6
1909	263,064	172	1,090	78·0
1910	265,077	172	912	83·0
1911	267,261	172	1,110	83·1
1912	269,193	172	1,542	86·4
1913	271,295	172	1,286	88·3
1914	271,523	172	1,835	78·9
1915	278,107	232	1,886	90·5
1916	278,107	232	1,380	87·0
1917	278,107	232	1,303	87·5
1918	278,107	232	1,245	87·5
1919	275,099	232	1,370	84·3
1920	286,061	232	1,710	86·4
1921	278,400	232	1,683	82·4
1922	281,600	232	1,032	86·3
1923	283,800	232	991	92·6
1924	285,900	232	1,502	90·5
1925	286,300	*232	1,711	86·4

* 30 of these beds are at present occupied by tuberculosis patients.

CITY HOSPITAL, WALKER GATE.
(Fever Pavilions).

Admissions during the year—1,711.

The average daily number of patients in the hospital was 163, exclusive of 89 cases of phthisis.

RATE PER CENT. OF CASES REMOVED TO HOSPITAL TO CASES NOTIFIED.

	1890	1895	1900	1905	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Scarlet Fever	18.4	33.0	35.0	50.1	84.5	83.8	88.0	90.6	81.4	91.3	94.5	91.9	99.3	88.0	85.7	82.3	84.7	91.9	90.4	85.0
Diphtheria	8.3	28.7	40.0	36.8	80.1	80.5	81.8	81.5	84.8	89.1	84.6	82.0	91.6	74.4	89.1	82.7	91.7	93.6	90.2	94.1
Enteric Fever	38.9	48.0	54.5	52.0	90.5	92.0	91.2	91.1	94.1	87.0	96.6	96.0	93.1	80.0	90.0	71.4	84.2	100.0	96.6	96.4
All cases of the above, together with Con- tinued and Typhus Fever and Cerebro- Spinal Fever, etc.	21.3	34.6	38.6	47.8	83.0	83.1	86.4	88.3	82.6	90.5	87.0	87.5	87.5	84.3	86.4	82.4	86.3	92.6	90.5	86.0

**CITY HOSPITAL FOR INFECTIOUS DISEASES,
WALKER GATE.**

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Diseases Admitted—1925.

		AFTER OBSERVATION PROVED TO BE :—																						
SENT IN AS	Number.	Scarlet Fever.	Diphtheria.	Diphtheria Carriers.	Enteric Fever.	Measles.	Mumps.	Erysipelas.	Epidemic Cerebro-Spinal Meningitis.	Tuberculous Meningitis.	Encephalitis Lethargica.	Pneumonia.	Other Respiratory Diseases.	Tonsillitis.	Gastro-intestinal Diseases.	Skin and Septic Diseases.	Varicella.	Rubella.	Pertussis.	Puerperal Fever.	Endocarditis.	Dysentery.	No appreciable Disease.	Unclassified.
Scarlet Fever	1078	1017	2	..	..	7	..	1	..	..	..	1	1	3	1	1	3	21	4	..	1	..	13	2
Diphtheria	199	9	149	2	1	4	..	..	..	..	..	3	4	24	..	..	..	..	1	..	..	..	2	..
Diphtheria Carriers	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever.....	25	..	..	..	19	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	1	..
Dysentery.....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..
Measles	128	5	..	..	..	121	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Rubella	9	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	..	..
Varicella	13	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	..	..	..	..	..	..	..
Pertussis	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	..	..	..	..	..
Mumps	6	..	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	40	..	..	..	..	..	..	37	..	..	..	1	..	..	..	1	..	..	..	..	..	..	1	..
Encephalitis Lethargica ..	28	..	..	..	..	..	..	..	..	1	20	..	..	..	..	..	..	..	..	..	..	..	6	1
Epidemic Cerebro-Spinal Meningitis	7	..	..	..	..	..	..	..	4	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..
Tuberculous Meningitis ..	5	..	..	..	..	..	..	..	1	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Tonsillitis	9	..	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..	..	..	..
Pneumonia	99	1	..	..	..	..	..	..	..	1	..	88	4	..	1	..	..	..	3	..	..	..	1	..
Other Respiratory Diseases	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Puerperal Fever.....	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	1
Skin and Septic Diseases ..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	..	..	..	..	..	..	..	..
Gastro-intestinal Diseases	8	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..
Unclassified	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	11
TOTAL	1711	1036	151	3	20	132	6	38	5	5	23	94	9	36	16	12	15	28	32	5	1	1	27	16

Diseases and Mortality Rates.

MORTALITY OF CASES TREATED IN HOSPITAL AS COMPARED WITH CASES NOT
REMOVED DURING 1925.

DISEASE.	HOSPITAL.			NOT REMOVED.		
	Total Cases. (Verified)	Deaths.	Case Mortality per cent.	Total Cases.	Deaths.	Case Mortality per cent.
Scarlet Fever	1036	16	1·5	179	4	2·2
Diphtheria . . .	151	8	5·3	11	2	18·2
Enteric Fever	20	3	15·0	—	—	—

Expenses of Maintenance.—Of the patients admitted, the expense of maintenance is charged as under :—

	CASES.
To the Newcastle Sanitary Authority	1693
To private guarantors	9
Tyne Port Sanitary Authority	1
Ministry of Pensions	4
Other Local Authorities	4
	—
TOTAL	1,711
	—

Admissions and Deaths, 1925.

DISEASE.	ADMISSIONS.												DEATHS.													
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
Scarlet Fever	115	81	95	69	82	54	73	85	109	115	86	72	1036	2	..	3	1	3	1	1	2	..	2	..	1	16
Diphtheria	12	14	8	12	16	8	22	12	10	7	17	13	151	..	..	1	1	2	..	1	1	..	..	..	1	8
Diphtheria Carriers .....	..	..	..	..	..	..	..	..	..	..	1	..	3	..	..	..	..	..	1	..	..	..	..	..	..	..
Enteric Fever	4	..	6	3	..	3	2	..	..	2	2	..	20	..	..	1	..	..	1	..	..	..	..	1	..	3
Dysentery.....	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	29	25	15	22	21	14	3	1	..	1	1	..	132	8	3	4	4	1	..	1	1	..	..	1	23	
Rubella.....	..	13	12	2	..	..	..	..	..	1	1	..	28	..	..	..	..	..	..	..	..	..	..	..	..	..
Varicella .....	..	3	..	1	..	4	4	..	1	1	1	..	15	..	..	..	..	..	..	..	..	..	..	..	..	..
Pertussis	2	2	4	3	5	9	5	2	1	..	..	..	32	..	..	..	1	3	..	1	..	..	..	..	..	5
Mumps	2	2	..	..	..	1	..	..	..	..	..	..	6	1	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas.....	6	5	5	4	2	1	..	4	2	4	5	..	38	1	1	..	..	..	..	..	..	..	..	..	..	..
Encephalitis Lethargica....	2	5	5	..	3	1	2	1	..	3	..	1	23	..	1	2	..	1	1	1	..	..	..	..	..	..
Epidemic Cerebro Spinal Meningitis.....	1	2	..	1	..	..	..	1	..	..	..	..	5	1	1	..	1	..	..	..	..	..	..	..	3	
Tuberculous Meningitis .....	..	1	..	2	..	..	..	1	1	..	..	..	5	..	..	..	2	..	..	..	1	1	..	..	4	
Endocarditis .....	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1	
Tonsillitis.....	9	3	5	2	4	1	1	3	2	4	1	1	36	..	..	..	..	..	1	..	..	..	..	..	..	..
Pneumonia	9	7	6	13	7	3	9	6	3	13	9	9	94	1	2	2	4	3	1	4	1	2	1	2	26	
Other Respiratory Diseases	1	1	2	..	..	..	..	..	1	2	1	1	9	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	1	1	..	1	2	..	..	..	..	1	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Skin and Septic Diseases....	3	1	..	1	3	..	..	3	..	1	1	..	12	1	..	..	1	..	..	..	..	..	..	..	..	2
Gastro-Intestinal Diseases ..	..	1	2	1	..	3	1	1	2	3	1	1	16	..	..	..	..	..	..	..	..	..	..	..	..	..
No appreciable Disease	1	1	..	4	2	2	5	2	3	5	..	2	27	..	..	..	..	..	..	..	..	..	..	..	..	..
Unclassified	2	4	..	1	1	1	1	2	..	1	1	2	16	..	..	..	..	..	..	..	1	..	..	..	1	
TOTALS	199	171	165	142	148	106	129	124	135	163	127	102	1711	14	8	13	15	13	5	9	7	3	3	4	6	100

Length of Stay in Hospital of Fatal Cases.—Of the foregoing, the following *died within 24 hours of admission*—diphtheria, 3; scarlet fever, 1; pneumonia, 5; measles with broncho-pneumonia, 2; cerebro-spinal fever, 1; acute miliary tuberculosis, 1; while 3 cases of diphtheria, 1 of scarlet fever, 4 of pneumonia, 2 of measles and broncho-pneumonia, 1 of encephalitis lethargica, and 1 of erysipelas died within 48 hours of admission to hospital.

Present Death Rates compared with those of Previous Years.

RETURN SHOWING THE NUMBER OF CASES OF
SCARLET FEVER, DIPHTHERIA, AND ENTERIC FEVER ADMITTED TO HOSPITAL
AND MORTALITY RATES PER CENT.
1891–1900.

YEAR.	NUMBER OF CASES ADMITTED TO HOSPITAL.			NUMBER OF DEATHS.			CASE MORTALITY PER CENT.		
	Scarlet Fever.	Diph- theria.	Enteric Fever.	Scarlet Fever.	Diph- theria.	Enteric Fever.	Scarlet Fever.	Diph- theria.	Enteric Fever.
1891.....	110	10	67	5	6	6	4.5	60.0	8.9
1892.....	244	18	26	8	5	5	3.3	27.8	19.2
1893.....	202	15	49	5	2	6	2.5	13.3	12.2
1894.....	230	8	60	6	3	13	2.6	37.5	21.7
1895.....	319	41	75	10	10	21	3.1	24.4	28.0
1896.....	294	24	67	7	..	14	2.4	..	20.9
1897.....	210	10	64	7	2	17	3.3	20.0	26.6
1898.....	179	21	197	9	5	33	5.0	23.8	16.7
1899.....	193	19	77	9	6	14	4.7	31.6	18.2
1900.....	211	29	37	9	8	8	4.3	27.6	21.6
	2,192	195	719	75	47	137	3.4	24.1	19.1
1915–1925.									
1915.....	1,305	223	88	37	18	10	2.8	8.0	11.4
1916.....	677	210	57	19	23	8	2.8	10.9	14.0
1917.....	409	164	12	13	22	1	3.1	13.5	8.3
1918.....	381	205	26	9	13	2	2.6	6.3	7.8
1919.....	630	196	11	21	13	..	3.3	6.6	0.0
1920.....	1,105	244	11	17	19	1	1.5	7.7	9.0
1921.....	1,115	241	9	9	15	2	0.8	6.2	22.2
1922.....	560	173	15	2	14	3	0.3	8.0	20.0
1923.....	434	163	13	4	7	1	0.9	4.3	7.7
1924.....	705	216	30	5	18	2	0.7	8.3	6.7
1925.....	1,036	151	20	16	9	3	1.5	6.0	15.0
	8,357	2,186	292	152	171	33	1.8	7.9	11.3

Diphtheria.—Of the 151 patients in hospital 125 were faucial or pharyngeal cases, of whom 6 died, a case mortality per cent. of 4·8 ; 19 were laryngeal or tracheal cases, of whom 3, or 16 per cent. died ; 7 of the faucio-pharyngeal cases had also involvement of the nasal passages and 3, included above, or 43 per cent., died. Tracheotomy was performed in 11 cases of diphtheria, of whom 3, or 27 per cent., died.

The diagnosis of each case was confirmed bacteriologically, either before or after admission to hospital, but in the great majority of instances this is done before admission.

Antitoxin is administered to all cases of diphtheria admitted to hospital which have not received the remedy at home.

Diphtheria and the “ Schick ” Test.—The Schick test for the determination of susceptibility to diphtheria, and toxin-antitoxin immunisation have been practised at the City Hospital during the last five years. The effect of this upon the incidence of diphtheria among the nursing and domestic staff is worthy of note.

During the five years previous to 1921, that is to say, previous to commencing the Schick test, there were 13 cases of diphtheria among the nursing and 2 among the domestic staff. From 1921 to 1923 all staff before commencing duty in the diphtheria wards were required to be Schick tested, and “ positives ” were toxin-antitoxin immunised, or excluded if immunisation was refused. Only 6 cases of diphtheria—all among nurses—occurred during the 3 years. These nurses had not been “ Schicked,” they were on duty in the scarlet fever wards, and there had been no contact with diphtheria that could be discovered.

In 1924 and 1925 every member of the nursing and domestic staff (with the exception of one or two upon whom the test was not considered absolutely essential) was required to be Schick tested, and immunised if necessary. It is a significant fact that during these two years there has been no case of staff sickness due to diphtheria.

Mixed Infections.—31 patients sent into hospital, or 1·8 per cent., were found on admission to be suffering from two or more distinct infectious diseases, as follows:—

Scarlet Fever with Measles.. .. .	2
Scarlet Fever with Varicella	3
Scarlet Fever with Pertussis	4
Diphtheria with Scarlet Fever	1
Diphtheria with Pertussis.....	3
Measles with Laryngeal Diphtheria	1
Measles with Pertussis	1
Measles with Pertussis and Pneumonia	2
Measles with Pneumonia	10
Measles with Varicella	1
Pertussis with Pneumonia	3
	—
	31
	—

Cross Infection.—During the year 1 patient developed a second infection in the wards, or ·06 per cent. of the total admissions to hospital. This was a scarlet fever case which developed measles. The infection had evidently been contracted from another scarlet fever patient who had been incubating measles when admitted to hospital.

“ Return ” Cases.—The following are details of the “ return ” cases of scarlet fever during the year :—

SCARLET FEVER.	“ Infecting ” Cases.		“ Return ” Cases.		“ Infecting ” Cases.
Total Admissions.	No.	Per- centage.	No.	Per- centage.	Average Day of Disease when Discharged.
1036	22	2·1	23	2·2	37

SEASONAL OCCURRENCE.

QUARTER.	Total Scarlet Fever Admissions.	“ Infecting ” Cases.		“ Return ” Cases.	
		No.	Percentage	No.	Percentage.
January to March	291	10	3·4	8	2·7
April to June	205	3	1·5	6	1·9
July to September	267	4	1·5	2	0·8
October to December ..	273	5	1·8	7	2·6

Of the 22 “ infecting ” cases: (a) 9 had no complications or discharges whilst in hospital, and remained “ clean ” after reaching home; (b) 6 had no complications whilst in hospital but developed discharges after reaching home; and (c) 7 were “ dirty ” cases whilst in hospital but were “ clean ” on discharge.

Of the above classes, the average day of disease on discharge from hospital of the supposed infecting cases, and the period elapsing after that discharge and the onset of illness in the “ return ” case, were as follows :—

Class (a)—33 and 10 days.
 Class (b)—38 ,, 12 ,,
 Class (c)—44 ,, 12 ,,

Hospital and Home “Isolation” compared.

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YEAR	1913		1914		1915		1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		13 YEARS.	
Patient “isolated” at.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.	Hospital.	Home.
“Susceptibles” in the homes of each class of patient	1131	53	1708	244	1462	86	800	8	509	17	450	20	726	47	1203	87	1401	147	647	50	563	16	807	32	1084	154	12491	961
“Incidental” infections	69	3	78	28	85	7	33	2	25	..	18	..	59	1	69	5	88	16	37	5	31	2	34	3	74	10	710	82
Percentage of “incidentals” to “susceptibles”	6.1	5.7	4.6	11.5	5.8	8.1	4.1	25.0	5.0	..	4.0	..	8.1	2.1	5.7	5.7	6.3	10.9	5.7	10.0	5.5	12.5	4.2	9.4	6.8	6.5	5.6	8.3
“Return” Infections	29	..	84	..	55	2	21	1	20	..	14	..	22	..	49	3	30	7	7	1	17	1	29	..	23	..	400	15
Percentage of “returns” to “susceptibles”	2.6	..	4.9	..	3.8	2.3	2.6	12.5	3.9	..	3.1	..	3.0	..	4.1	3.4	2.1	4.8	1.0	2.0	3.0	6.2	3.6	..	2.1	..	3.2	1.5
Total of “incidental” and “return” infections	98	3	162	28	140	9	54	3	45	..	32	..	81	1	118	8	118	23	44	6	48	3	63	3	97	10	1100	97
Percentage of this total to “susceptibles” ..	8.7	5.7	9.5	11.5	9.6	10.5	6.7	37.5	8.8	..	7.1	..	11.2	2.1	9.8	9.2	8.4	15.6	6.8	12.0	8.5	18.7	7.8	9.4	8.9	6.5	8.8	10.1

For the purpose of this table a “return” case is counted to the year in which the “infecting” case was admitted, even though the latter may have been discharged, or the “return” case admitted, in the following year.

‘ RETURN ’ CASES FOR YEARS 1906–1925.

YEAR.	Total Scarlet Fever Admitted.	“ Infecting ” Cases.		“ Return ” Cases.	
		No.	Percentage.	No.	Percentage.
1906.....	442	7	1·6	10	2·3
1907.....	390	11	2·8	17	4·4
1908.....	283	4	1·4	5	1·8
1909.....	623	23	3·7	30	4·8
1910.....	465	18	3·9	20	4·3
1911.....	605	26	4·3	30	4·9
1912.....	1,018	47	4·6	52	5·1
1913.....	853	23	2·7	24	2·8
1914.....	1,404	78	5·6	96	6·8
1915.....	1,305	43	3·3	49	3·7
1916.....	677	22	3·3	24	3·5
1917.....	409	9	2·2	13	3·2
1918.....	381	13	3·4	14	3·6
1919.....	630	23	3·6	22	3·5
1920.....	1,105	37	3·3	39	3·5
1921.....	1,115	24	2·1	30	2·7
1922.....	560	9	1·6	7	1·2
1923.....	434	14	3·2	16	3·6
1924.....	705	24	3·4	29	4·1
1925.....	1036	22	2·1	23	2·2

Hospital and Home “ Isolation ” Compared.

In order to determine the relative liability to further infection, subsequent to the first, in hospital and home-isolating households respectively, a careful record has been kept for thirteen years of the number of presumably susceptible persons in each invalided house, all, other than the original patient, below 12 years of age being so classed, and the proportionate incidence of secondary cases calculated.

Cases occurring within seven days of the “ isolation ” of the original case were not counted, as these probably acquired their infection before the influence of the “ isolation ” could be felt.

Cases occurring subsequently to the seventh day of “ isolation ” of the original case, and prior to the release of the latter, were classed as “ incidental ” infections.

Cases occurring within 28 days after the release of the original case from “ isolation ” were classed as “ return ” infections.

The following table shows the results obtained:—

OTORRHŒA AND RHINORRHŒA.

The continued increase in the incidence of scarlet fever during 1925 resulted in a correspondingly greater number of nose and ear complications. The number of cases developing rhinorrhœa or otorrhœa was 168, or 16 per cent. of the total scarlet fever admissions (1,036).

This percentage, although slightly less than last year, is still somewhat high, but it should be borne in mind that a large proportion of the rhinorrhœa cases refer to patients who suffered from no greater inconvenience than a slight watery discharge from the nose, lasting for only 2 or 3 days.

The accompanying table sets out in detail the average duration of treatment, both conservative and operative, and the average length of stay of different types of cases :—

	Number of Cases.	Average length of Stay (days).	Av. No. days treat- ment after operation. (In cases operated upon.)	Av. No. days con- servative treatment. (In cases not oper- ated upon).
Otorrhœa	43	59	16	30
Rhinorrhœa	87	51	9	15
Both Otorrhœa & Rhinorrhœa	38	67	16	29
All Cases	168	59	14	25

Subsequent Progress.—Of 157 cases of otorrhœa and rhinorrhœa visited from six to twelve months after leaving hospital, 144, or 92 per cent. were found to have remained free from discharges. 13 cases (6 otorrhœa and 7 rhinorrhœa) still suffered from occasional watery discharge from nose or ear, and these patients were being

kept under observation by Dr. Maclay at the out-patient department of the Throat, Nose and Ear Hospital.

Included in the above patients visited were 23 "tonsils and adenoids" and 15 "mastoid" cases. All except 2 "tonsils and adenoids" and 1 "mastoid" patients had remained free from recurrence of complications.

Operations.—23 operations for removal of tonsils and adenoids and 10 mastoid operations were performed. In the rhinorrhœa cases the discharge dried up in an average of 9 days after the operation, and in the otorrhœa cases in an average of 16 days.

The routine specialist examinations and surgical treatment of these septic complications, affecting throat, nose and ear, of scarlet fever patients have been practised now for $4\frac{1}{2}$ years, and have proved to be a real asset in true preventive medicine. Of the immediate results it need only be said that the general condition of the child is at once improved, that the length of stay in hospital is appreciably curtailed, and that the chances of infecting others upon discharge from hospital are reduced to a minimum.

The remoter results are of more general importance. Until recent years delay in seeking advice, poverty, and the "waiting list" problem of general hospitals have too often condemned an ear drum to progressive destruction and irreparable damage. With the present early recognition and treatment of these conditions, the child no longer runs the risk of becoming a chronic invalid through otorrhœa or deafness, the ever-present menace of impending mastoid disease or meningitis is removed, and with the decrease in the number of children

suffering from these disabilities, so will there be a proportionate reduction in the work of the school medical services and other clinics and hospitals in the City.

Prophylaxis.—Prophylactic vaccines prepared from organisms present in the nasal and ear discharges of scarlet fever patients were administered to 337 clean cases of the disease. Of this number 35, or 10 per cent., developed either otorrhœa or rhinorrhœa, while of the remaining 699 who were not inoculated 133, or 19 per cent., were affected by one or other of these complications. As already mentioned, a large proportion of these discharges were very slight, and lasted only for a short while, but again an appreciable disparity is to be noted between the incidence among the inoculated compared with that of the uninoculated.

It is appropriate to make mention here of the newly-introduced scarlatinal antitoxin. This serum has but lately come on to the market, and consequently only a short experience of its value as a prophylactic or therapeutic agent has been obtained. Even so, it can be said without hesitation that the few cases treated (which were selected on account of the severity of attack and presence of sepsis or toxæmia), have shown a very definite improvement which hitherto has been unusual.

The price of the antitoxin is at present somewhat prohibitive, and for this reason its use has been restricted to severe cases such as described. The results, however, appear to justify the expense, and it is no idle remark to suggest that the administration of this serum in scarlet fever will become almost as universal as that of diphtheria antitoxin in the treatment of diphtheria.

Average stay in Hospital during the last Eighteen Years.

YEAR.	All Cases.		Scarlet Fever.		Diphtheria (including carriers).		Enteric Fever.		Other Diseases.	
	No.	Average Stay in Days	No.	Average Stay in Days	No.	Average Stay in Days	No.	Average Stay in Days	No.	Average Stay in Days
1908	614	48.4	283	56.3	220	40.0	88	48.5	25	31.8
1909	1,090	49.2	623	54.3	334	41.6	56	45.9	78	42.8
1910	912	44.4	465	51.3	317	37.2	47	46.4	83	32.5
1911	1,110	45.6	605	50.5	375	41.9	68	44.4	62	20.2
1912	1,542	45.8	1,018	46.1	383	45.7	82	46.2	59	20.9
1913	1,286	45.5	853	47.6	254	47.9	109	43.4	70	19.6
1914	1,835	41.6	1,404	44.4	251	34.4	86	41.2	94	20.2
1915	1,886	41.3	1,305	47.1	223	35.6	88	44.0	271	17.2
1916	1,380	35.7	677	42.5	210	38.2	57	48.8	436	22.3
1917	1,303	33.9	409	46.5	164	43.5	12	59.8	718	24.0
1918	1,245	32.1	381	45.2	205	46.6	27	52.3	632	18.7
1919	1,370	33.8	630	41.5	196	54.8	11	39.2	533	16.9
1920	1,710	32.4	1,105	35.0	244	44.8	11	57.5	350	16.7
1921	1,683	28.0	1,115	31.1	241	31.6	9	36.4	318	13.9
1922	1,032	29.9	560	32.5	189	38.0	15	47.5	268	17.9
1923	991	29.6	434	33.7	172	41.2	13	49.4	372	18.7
1924	1502	32.5	705	36.3	229	37.0	30	53.9	538	24.6
1925	1711	34.4	1036	37.3	154	46.8	20	59.1	501	23.0

Staff Sickness.

Nursing Staff.—58 of the Nursing Staff were off duty owing to sickness for a total of 1,924 days. 9 contracted scarlet fever, 13 influenza, 16 tonsillitis, and 3 measles.

Domestic Staff.—19 were off duty through sickness for a total of 347 days. 4 contracted scarlet fever, 10 tonsillitis, and 2 influenza.

Bacteriological Laboratory, City Hospital.

The following examinations were made in connection with the patients in the fever wards :—

Swabs for Diphtheria Bacilli	686
Other Examinations	194
TOTAL	880

SMALLPOX AND ISOLATION HOSPITALS, TOWN MOOR.

90 patients were admitted to the Smallpox Hospital during the year. Of these 4 were suspected cases only and proved not to be smallpox. 2 cases were admitted from the Chester-le-Street Rural District on the request of the Medical Officer of Health of that district, and the expenses of maintenance were charged to that Authority. Of the remaining 84 cases, one died.

The following are details as to age and vaccination conditions :—

Age.	No. of Cases.	Vaccinal Condition.
0-15	37	All unvaccinated.
15-20	10	2 vaccinated in infancy, 8 unvaccinated.
20-25	7	2 " " 5 "
25-35	4	All unvaccinated.
35 and over	26	23 vaccinated in infancy, 3 unvaccinated.

315 direct contacts were admitted to the Isolation Hospital, and were detained for varying periods during the disinfection of their homes.

DISINFECTION.

9,492 cases of notifiable infectious disease have been inquired into by the Infectious Disease Inspectors and Health Visitors, and, with the exception of measles and chickenpox, the houses or rooms connected therewith disinfected by spraying with formalin. In connection with cases of tuberculosis, 838 houses, including 856 rooms, were similarly disinfected. 276 visits were made, and disinfection was also carried out in 194 special cases.

211 extra visits of supervision to cases treated at home were made by the Infectious Disease Inspectors.

191 visits were made to cases who had suffered from otorrhœa and rhinorrhœa whilst in hospital.

Inquiries were also made in connection with 2,140 smallpox contacts. These persons were kept under observation until the possible incubation period was over. 849 visits were made to the homes of school children and the parents advised to have the children vaccinated.

INFECTED ARTICLES TREATED IN THE DISINFECTING APPARATUS AT THE CITY HOSPITAL FOR INFECTIOUS DISEASES, WALKER GATE.

ARTICLES FROM CITY.		ARTICLES—HOSPITAL PROPERTY.	
1925	1924	1925	1924
30,137	22,376	19,388	18,912

8,801 articles of clothing, etc., were also disinfected at the Smallpox Hospital.

The staff have thus dealt with 58,326 articles at the two disinfectors during the year.

Fluid disinfectant, in half-pint tins, was given out free on the order of the special inspectors, for home use in connection with infectious disease. Every precaution was taken to ensure that the disinfectant was properly and economically used.

DISINFECTANTS DISTRIBUTED—1925.

FROM	FOR INFECTIOUS DISEASES.	FOR PHTHISIS.
	FLUID ($\frac{1}{2}$ pint tins.)	FLUID ($\frac{1}{2}$ pints.)
Health Department	371	....
Tuberculosis Dispensary .....	....	640
Corporation Yard, Benwell	162	....
TOTAL	533	640

BACTERIOLOGICAL INVESTIGATIONS, 1925.

The following is a summary of the bacteriological investigations carried out on behalf of the Health Department of the Newcastle Corporation by the Department of Bacteriology at the University of Durham College of Medicine.

4,843 specimens were submitted for examination. The nature of the investigations and the results obtained were as follows :—

	DIPHTHERIA.			PHTHISIS			ENTERIC.		
	Total.	Posi- tive.	Nega- tive.	Total.	Posi- tive.	Nega- tive.	Total.	Posi- tive.	Nega- tive.
No. of Ex- aminations.	1150	103	* 1047	597	110	487	48	15	33

* Includes three negative examinations submitted for virulence test.

MILK EXAMINATIONS :—

	Total.	Found.	Not Found.
1. For the tubercle bacillus	372	29	343
2. Bacterial content of organisms other than the tubercle bacillus (the colon bacillus being taken as the indicator) :—			
Colon bacilli not found in 1 cc. or less			3
Colon bacilli found in 1 cc., but not in less			14
Colon bacilli found in 0·1 cc., but not in less			48
Colon bacilli found in 0·01 cc., but not in less			53
Colon bacilli found in 0·001 cc., but not in less			25
Colon bacilli found in 0·0001 cc., but not in less			14
Colon bacilli found in 0·00001 cc., but not in less..			27
			<hr/> 184 <hr/>

136 samples of “ Graded Milk ” were examined during the year in accordance with the scheme of the Ministry of Health under the Milk and Daries (Amendment) Act, 1922. The following is a summary of the results obtained :—

	Satisfied the Test.	Failed to satisfy the test.
“ Certified ” Milk	30	6
“ Grade A ” Milk (Tuber- culin tested).....	60	21
“ Grade A ” Milk	16	3
	<hr/> 106 <hr/>	<hr/> 30 <hr/>

WATER EXAMINATIONS :—

Class I. (Colon bacilli not found in 100 cc. or less).....	9
Class II. (Colon bacilli found in 100 cc. but not in less)	59
Class III. (Colon bacilli found in 10 cc. but not in less)	95
Class IV. (Colon bacilli found in 1 cc. but not in less).. <td>18</td>	18
	<hr/>
	181

VENEREAL DISEASES :—

	Total.	Serological reactions.	Microscopical examinations.
From Treatment Centres	1,176	1,171	5
From Private Practitioners ...	926	799	127
TOTAL	2,102	1,970	132

OTHER EXAMINATIONS :—

(a) **Enteric Fever.**—5 specimens of urine and 48 specimens of fæces were received from the City Infectious Diseases Hospital and examined for organisms of the enteric group. All of the first-named were negative.

From the fæces :—

B. typhosus was isolated in 11 cases.

B. paratyphosis B. was isolated in 7 cases.

The remaining 30 cases were negative as regards organisms of the enteric group, but

B. Morgan No. 1 was isolated in 3 cases,

B. pyocyaneus in 3 cases, and

B. fæcalis alkaligenes in 1 case.

Unlike former years, a considerable proportion of the specimens were derived from cases in the acute stage of the illness, and this probably accounts for the considerably larger percentage of positive results which were obtained, added to the fact that one or two cases of more or less persistent "carriers" were examined on several occasions.

2 specimens from sources other than the Hospital proved negative.

(b) **Bacillary Dysentery.**—2 specimens were examined for dysentery bacilli and proved negative.

B. Morgan No. 1 was isolated in 1 case.

(c) The following examinations were also carried out for the City Infectious Diseases Hospital and reports furnished :—

2 specimens of cerebro-spinal fluid.

9 examinations were carried out with a view to the preparation of autogenous vaccines, and 7 vaccines were actually prepared.

(d) **Food Poisoning.**—A specimen of material was examined for suspected food-poisoning, and an organism giving the reactions of Shiga's dysentery bacillus was isolated, but proved to be inagglutinable.

A second specimen was examined from a contact, but proved to be negative.

(e) A sample of mussels and 2 samples of water were submitted for complete bacteriological examination and reports were furnished at the time.

F. W. A. CLAYTON, M.D.,
Bacteriologist.

University of Durham College of Medicine,
21st May, 1926.

REPORTS OF THE
TUBERCULOSIS MEDICAL OFFICER
AND THE
MEDICAL SUPERINTENDENT OF BARRASFORD SANATORIUM.

IV.—TUBERCULOSIS.

TUBERCULOSIS DISPENSARY
INSTITUTIONAL TREATMENT.

TUBERCULOSIS.

Report of the Tuberculosis Medical Officer.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I herewith beg to submit my report on the work of the Tuberculosis Section for the year 1925.

As in previous years, the information is given mainly in tabular form ; the tables have been brought up to date and additional matter added, as required by the Ministry of Health Circular 648.

Compared with 1924, there has been an increase in the total number of notifications and a slight increase in the death rate.

The duration of illness has again been found to have been much the same as in the previous year. There have also been many very acute cases in young adults, and several families where infection of two or three members occurred simultaneously.

The Tuberculosis Section has, as before, been administered from one Tuberculosis Dispensary, but the staff has been augmented by the services of Dr. Dickinson, who has acted as a part time Medical Officer, attached to the Dispensary, and, by this arrangement, I have been able to visit cases in the City and meet general practitioners in consultation one or two mornings each week. The Assistant Tuberculosis Medical Officer is resident at the City Hospital, Walker Gate, where there

are 92 beds for the treatment of advanced pulmonary tuberculosis, and his services have not been required at the Tuberculosis Dispensary, except in emergencies ; the clinics at the Dispensary are entirely taken by myself and the part-time Medical Officer.

The beds, belonging to the local authority, at the disposal of the department are as follows :—

Barrasford Sanatorium, for early and moderately advanced cases, under the care of Dr. C. G. R. Goodwin	45 beds
--	---------

City Hospital Sanatorium, Walker Gate, for advanced cases (Dr. J. A. Charles, resident)	92 beds
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Actually it has not been found practicable to fully occupy these beds by advanced cases, as the work is too depressing, both for the patients and staff. A small number, usually about ten, of ambulant and observation cases have, therefore, also been admitted ; many of these remained at Walker Gate only for a short period, and were transferred to Barrasford. During the year 34 cases were dealt with in this manner.

A further 30 beds for children have been fully occupied at the Stannington Sanatorium—a private institution.

The co-operation of the department with the general practitioners, the local hospitals, the school clinics and other institutions has been entirely satisfactory. As far as possible, personal letters and communications with the local doctors have been used. While this co-operation is intimate and harmonious, it is to be regretted

that there is not a uniform Health Service wherein the School Medical Department, the Union Hospital, and other Hospitals could be all administered by one head.

The local Sanitary Authority, of which the Tuberculosis Section is only a part, have undertaken a large amount of disinfection throughout the City, following the removal of active cases of pulmonary tuberculosis from their homes.

With regard to Memo. 286 and the co-ordination of the work of Insurance Practitioners and the Tuberculosis Officer, it has been found that the practitioners resent the filling up of forms and much prefer a letter of a personal nature. Consequently all the details of this Memo. have not been carried out. In actual practice, this method of letter-writing takes no longer and works admirably.

The only special method of treatment, other than the routine resting in bed until the temperature remains normal, that has been used, is that of Artificial Pneumothorax, and, while the results collectively are poor, great benefit has been given to individual cases.

In diagnosis, the Rontgen Ray Machine at Walker Gate has been very extensively used during the year; 210 cases have been photographed and records kept of 464 radiosopic examinations. Apart from this, some 500-600 further radiosopic examinations have been carried out. I regard the use of this aid to diagnosis as most important, not only in artificial pneumothorax work, but also in doubtful cases, and in the thorough examination of contacts. Many of the practitioners in the City are becoming more cognisant of its utility, and send cases to the Dispensary to be examined and X-rayed, if necessary.

Doubtful cases have been repeatedly examined, and, as far as possible, a diagnosis has always been made within two months of first seeing the case, if it is not in hospital, and within one month if it is. Except in a few cases, who have left the district, no difficulty has been experienced in following up "suspects."

Contacts have been kept under close observation, and repeatedly examined, and as the visiting nurses have seen all active positive cases once a month, they have assisted greatly in making them report at the Dispensary for supervision.

No form of dental treatment has been undertaken by the Local Authority, but many cases have been referred to private Dentists and to the Dental Hospital in the City.

As has been explained in previous reports, the arrangements for the treatment of non-pulmonary tuberculosis are not satisfactory. Only 10 beds are available for the treatment of such cases in children, and none are provided for adults. The surgical apparatus used by these cases is provided at the Stannington Sanatorium at the expense of the Corporation of Newcastle, or the Voluntary Tuberculosis Care Council. Adults who go to the Infirmary, Union Hospital, and other Hospitals receive their treatment from these different charities or institutions, under which they have placed themselves.

Working intimately with the Tuberculosis Dispensary is the Voluntary Tuberculosis Care Council, a body supported by the Corporation and voluntary sources, and one that is carrying out most useful and valuable work. It is the only "after care" agency that exists in the City, and provides extra nourishment, beds,

bedding or clothing where necessary. As is already mentioned, it is a voluntary society, and is likely to be hampered by shortage of subscriptions. Its various activities cannot be praised too much.

No provision has been made for the nursing of cases in their homes ; any case that is ill enough for this is, if possible, removed to the City Hospital, Walker Gate.

There are, at the time of writing, three shelters in use by patients in the city ; these are loaned out from the City Hospital. In a very large proportion of cases, even if shelters were available, no space suitable could be found adjacent to the dwelling of the patient.

During the year there have been no special new points noted regarding the incidence of tuberculosis ; the figures given before, regarding the housing conditions and tuberculosis, still stand. The mortality of pulmonary tuberculosis in the crowded congested parts of the City is still three times that of the better residential and more hygienically planned areas. The demolition of the slum areas, and their replacement by healthy houses, is one of the most important steps that can be undertaken in the eradication of tuberculosis.

No action has been taken under Section 62 of the Public Health Act of 1925, nor has any notice been served under the Public Health Prevention of Tuberculosis Regulations of 1925. The only patient with active pulmonary tuberculosis known to be working

with milk was interviewed, personally, and he immediately ceased handling it after he was told that he was likely to infect other persons through the medium of the milk ; legal action was, therefore, not necessary.

Yours faithfully,

GEORGE HURRELL, M.D.,

Tuberculosis Medical Officer.

19th May, 1926.

REPORT.

Notifications.—931 notifications were received during the year but some were duplicates, so that the total number of new cases was 849, of whom 546 were certified to be suffering from ‘pulmonary’ and 303 from ‘non-pulmonary’ tuberculosis.

The details as regards sex and age are given in the accompanying table.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD, 1ST JANUARY TO 31ST DECEMBER, 1925.

AGE PERIODS.	Number of Notifications on Form "B."												Number of Notifications on Form "C."		Number of Notifications on Form "D."		
	Primary Notifications.												Total Notifications (including Cases previously notified by other doctors).	Poor Law Institutions.	Sanatoria.	Poor Law Institutions.	Sanatoria.
	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and upwards.	TOTAL.	Total Notifications (including Cases previously notified by other doctors).	Poor Law Institutions.	Sanatoria.	Poor Law Institutions.	Sanatoria.
Pulmonary—	2	9	25	17	30	37	48	60	52	22	4	306	319	30	285	33	215
Males																	
Females	1	9	16	15	35	43	39	38	29	14	1	240	274	34	195	44	161
Non-Pulmonary—	2	47	43	21	15	8	14	7	5	2	..	164	185	12	10	9	10
Males																	
Females	4	32	25	23	16	10	14	11	..	4	..	139	153	1	9	7	10
TOTAL	9	97	109	76	96	98	115	116	86	42	5	849	931	77	499	93	396

Form "A."—Notification by any Medical Practitioner of a case of Tuberculosis (whether at an Institution or otherwise).

Form "B."—Notification by School Medical Officers of cases of Tuberculosis in children attending Public Elementary Schools of which he has become aware in the course of inspection.

Form "C."—Notification by the Medical Officers of Poor Law Institutions and Sanatoria of persons admitted who are suffering from Tuberculosis.

Form "D."—Notification by the Medical Officers of Poor Law Institutions and Sanatoria of persons discharged who are suffering from Tuberculosis.

As far as possible every notified case is visited by the nurses and urged to visit the Dispensary for examination and classification with a view to treatment.

Of the 849 cases notified, 497 attended the Dispensary and 187 others were visited in their homes by the outdoor staff in the course of the year. The names of the patients certified to have died from tuberculosis, but not previously notified, are entered in the notification register, so that if the 64 patients in this category be deducted it will be seen that the Dispensary gets into touch with most of the known cases of tuberculosis.

With reference to the 101 cases, neither examined at the Dispensary nor visited by the nurses, some were living in institutions, or died before they could be visited, while others were notified at the end of the year, and were visited early in 1926.

A table has been prepared to illustrate these points, and also to show the nature of the institutional treatment afforded to the cases notified during 1925. While 245 of the 546 patients notified as suffering from pulmonary tuberculosis were treated in beds belonging to, or controlled by the City Council, it is particularly noteworthy that only 14 out of a total of 303 patients notified as suffering from forms of tuberculosis other than pulmonary were treated in such beds.

The number of patients dying in the year of notification is also given, and it will be seen that about one-third of all the new cases died in the same year as they were notified.

NOTIFICATIONS OF TUBERCULOSIS DURING 1925.

Part Affected.	Notifi- cations.	Attended Dispensary.	Visited by Nurse but <i>not</i> attended Dispensary.	Received Institutional Treatment.				Died during the Year.
				Barras- ford Sana- torium.	Sanat. Pav. Walker Gate.	Stann- ington Sana- torium.	Total.	
Pulmonary (Male) ..	306	211	45	55	74	4	133	89
„ (Female).	240	158	49	28	81	3	112	89
Non-Pulmonary— (Male)	164	72	60	..	1	6	7	50
(Female)	139	56	33	..	..	7	7	42
TOTAL	849	497	187	83	156	20	259	270

15 cases re-admitted to the Sanatorium Pavilions, Walker Gate, and 34 cases transferred to Barrasford Sanatorium during the year, are counted as only receiving treatment on one occasion.

During the year 146 cases (about one-sixth of the total) were notified by the Dispensary Medical Staff; of the 121 patients admitted to Barrasford Sanatorium, 53 were diagnosed and notified by the Dispensary Staff, as also 111 out of the 336 patients admitted to the Sanatorium Pavilions, Walker Gate—a proportion of over 36 per cent.

NEW CASES AND MORTALITY.

Circular 648.

Age Periods.	NEW CASES.				DEATHS.			
	Pulmonary.		Non- Pulmonary.		Pulmonary.		Non- Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0	2	1	2	4	1	..	1	2
1	9	9	47	32	7	3	20	13
5	25	16	43	25	1	4	9	4
10	17	15	21	23	2	9	8	4
15	30	35	15	16	16	27	3	7
20	37	43	8	10	23	19	6	..
25	48	39	14	14	30	36	6	5
35	60	38	7	11	46	26	..	4
45	52	29	5	..	45	18	3	1
55	22	14	2	4	15	9	2	3
65 upwds.	4	1	..	..	4	2	..	..
	306	240	164	139	190	153	58	43

Non-notified deaths were 7·6 per cent. of deaths from pulmonary tuberculosis.

Non-notified deaths were 37·6 per cent. of deaths from non-pulmonary tuberculosis.

Practitioners are written to by the Medical Officer of Health when notification appears to have been neglected.

Deaths.—505 deaths were registered as due to some form of tuberculosis, and of these 359 were certified as due to pulmonary tuberculosis (including cases of acute phthisis) and 146 to other forms of the disease.

On these figures the death rates per 1,000 population were :—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	359	1·25
Non-Pulmonary Tuberculosis	146	0·51
Total Tuberculosis Death Rate (uncorrected) ...	505	1·76

It must be noted, however, that 12 residents of Newcastle died in other parts of the United Kingdom from tuberculosis (8 pulmonary ; 4 non-pulmonary), while 73 of the deaths (24 pulmonary ; 49 non-pulmonary) registered in Newcastle were those of temporary residents.

The corrected deaths and death rates per 1,000 of the population were :—

	Number of Deaths.	Death Rate per 1,000 Population.
Pulmonary Tuberculosis	343	1·20
Non-Pulmonary	101	0·35
All forms of Tuberculosis (corrected)	444	1·55

The details as regards sex and age, together with the form of the disease, are given in the accompanying table :—

DEATHS FROM TUBERCULOSIS.—Sex and Age Distribution.

		Under 1 year.		1 and 2		3 and 4		5 to 10		10 to 15		15		16 to 20		20 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 70		70 and upwards		TOTAL.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		1	..	1	2	5	1	1	4	2	9	2	2	11	24	23	18	27	35	45	25	44	18	15	8	3	1	1	..	181	147
Pulmonary Tuberculosis	1	1	3	1	3	1	1	1	1	1	1	9	6
Acute Phthisis	1	2	1	2	1	1	1	1	1	1	5	7
Acute Miliary Tuberculosis .		1	..	..	..	..	..	..	..	..	..	..	1	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	30	16
Tuberculous Meningitis.....		..	1	11	2	4	6	7	3	4	1	..	1	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	6	12
Abdominal Tuberculosis ...		1	..	1	1	..	..	..	1	1	1	..	1	..	1	..	..	1	3	..	3	2	1	..	..	..	..	..	2	1
Spinal Column .....		..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	3	..
Tuberculosis of Joints .....		..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis of Skin .....		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Disseminated Tuberculosis..		..	2	1	1	1	2	..	..	2	..	..	..	1	2	2	..	2	..	..	1	..	..	..	..	..	..	..	10	5
Tuberculosis of other Organs		..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	2	2	
TOTAL		2	2	15	8	12	8	10	8	10	13	2	5	17	29	29	19	36	41	46	30	48	19	17	12	3	1	1	1	248	196

81·6 per cent. of the 'lung' cases were known to the dispensary staff, 222 having visited the dispensary and an additional 59 having been attended in their homes by the visiting nurses.

Only 30·7 per cent. of the 'non-pulmonary' were attended at or from the dispensary. The proportion is much too low; the main reason is that 37·6 per cent. of the non-pulmonary cases were not notified before death (see later).

Of 343 deaths from pulmonary tuberculosis the diagnosis was verified bacteriologically in 228 instances, *i.e.*, 66·4 per cent.

If the 26 unnotified cases be excluded, the percentage is 71·9—a satisfactory figure.

84 of the sputum positive cases who died during the year were notified by the dispensary staff.

12 other dispensary patients who were known to be suffering from pulmonary tuberculosis and in whose sputum tubercle bacilli had been found, died during the year, the causes of death being registered as chronic bronchitis in 3 cases, miliary tuberculosis and nephritis 2 cases each; acute general tuberculosis, cancer of stomach, aortic aneurism, arterio sclerosis, and uræmia 1 case each.

Duration of Illness.—Wherever possible, in pulmonary cases, enquiry was made as to the length of time the deceased had been ill, and the average duration of illness was found to be 40·4 months. As in previous years, important differences were discovered when age and sex were considered, the figures being 50·0 months for adult males, 30·9 months for adult females, and 22·8 months for those below 15 years of age (both sexes).

The period between notification and death was, as one would expect, longer in the adult males than in the adult females and children, but averaged 20·1 months for all cases.

As the duration of illness for all cases was 40·4 months, each patient who died during the year must, on the average, have been ill for 20 months before notification.

38·5 per cent. of the patients had either not been notified prior to death (7·6 per cent.), or died within 3 months of notification (30·9 per cent.).

Further details and comparative figures for previous years are submitted in the following table:—

RETURN OF DEATHS FROM TUBERCULOSIS OF THE LUNGS OCCURRING IN:—

	Deaths which occurred in these years.							
	Average for 1913—17.	Average for 1918—22.	19.3.	1924.	1925.			
					M.	F.	Chil- dren.	Total.
Persons not notified	43	51	42	37	14	6	6	26
„ notified under 1 month .	35	47	51	53	28	28	6	62
„ between 1 and 3 „	94	48	42	43	22	16	5	43
„ between 3 and 6 „	53	30	44	27	18	24	1	43
Total under 6 months	226	183	179	160	82	74	18	174
Persons notified between								
6 and 12 months ..	47	46	37	39	21	22	3	46
„ 12 and 18 „ ..	28	21	23	29	9	11	1	21
„ 18 and 24 „ ..	15	15	14	17	11	8	1	20
„ 2 and 3 years	20	18	19	25	13	7	2	22
„ over 3 years	21	47	39	52	43	15	2	60
TOTAL	357	331	311	322	179	137	27	343

The figures for non-pulmonary forms of tuberculosis were even worse, for in 38 instances out of the 101 deaths, the disease had not been notified prior to death.

The records show that 18 of the 26 fatal unnotified cases of pulmonary tuberculosis, and 26 of the 38 fatal unnotified cases of non-pulmonary tuberculosis, died in hospitals; included in the 26 “other forms” were 14 cases of tuberculous meningitis.

Occupation.—The nature of the work done and the conditions under which it is carried on have an important bearing on the incidence of disease, and probably account for the large excess of adult male over adult female deaths from pulmonary tuberculosis.

167 'insured persons' (129 males and 38 females) are included in the 343 deaths.

38 of the males were ex-Service men.

Family History.—In 139 instances amongst the 312 cases investigated after death, *i.e.*, in 44·5 per cent., there was a history that some near relation was suffering from, or had died of pulmonary tuberculosis. The figures were 46·8 for men, 43·2 for women.

House Accommodation.—The home conditions of the working classes are intimately associated with occupation and family history as predisposing to tuberculosis

The numbers of rooms in the dwellings occupied by 312 persons who died of phthisis were as follows :—

Rooms in Dwelling.	1	2	3	4	More than 4	Common Lodging Houses.	Not known	Total.
Deaths	37	94	67	68	41	1	4	312

As regards the type of house occupied 173 were flats, 89 tenements, 45 self-contained, 1 common lodging house, while 4 were unknown.

Treatment in Institutions.—It is noteworthy that of the 236 patients suffering from pulmonary tuberculosis who attended the Dispensary and died in 1925

208, or 88 per cent., had received institutional treatment on one or more occasions. This is a high percentage, and shows what a large proportion of the cases visiting the Dispensary avail themselves of the accommodation provided.

Ward Distribution.—As in previous years a table is presented to show the ward distribution of tuberculosis during 1925. The estimated population of each ward is given, together with the number of notifications and deaths, and the rates per thousand living.

Of course the figures for one year are relatively small, and the rates may show great fluctuation from year to year, but when an average is taken over a period it is apparent at once that the death rate and notified incidence are both much higher in the poorer and more congested wards of the City.

Considerations of space prevent the publication of all the figures, but, while the tuberculosis death-rate for the City in 1925 was 1·55 the average for the ten years 1916-25 for St. Nicholas' Ward was 2·42, and for All Saints' 2·36, whereas the corresponding figures for St. Thomas' and Jesmond Wards were 0·82 and 0·73 respectively.

When one ward shows, over a period of years, a death rate from tuberculosis more than three times as great as that of another ward of the same city, it is obvious that there is great scope for preventive measures in tackling tuberculosis, and that further careful consideration of the problem is warranted.

The following table shows the number of positive cases living in one, two, three, four, and more than four roomed houses, and also the total number of persons

living under these conditions. It will be seen that the largest number of cases occur in two and three roomed houses. This point in conjunction with the Ward distribution of the disease emphasises the necessity of improving the homes of the people in order to stamp out tuberculosis.

Housing Conditions of Sputum Positive Cases.

Holding.	Number of Cases.	Number of Persons.	Average number of persons to one Room.
1 Room	62	190	3.06
2 Rooms	163	716	2.20
3 Rooms	167	828	1.60
4 Rooms	130	705	1.10
More than 4 Rooms	83	447	1.08
TOTAL	605	2,886	1.50

In 16 instances there were 2 cases in one house.

In 1 instance there were 3 cases in one house.

WARD DISTRIBUTION OF TUBERCULOSIS, 1925.

WARD.	Population 1925.	NOTIFICATIONS.						DEATHS.						New Patients Dispensary Register.
		Pulmonary	Attack rate per 1,000 of population.	Non- Pulmonary	Attack rate per 1,000 of population.	TOTAL.	Attack rate per 1,000 of population.	Pulmonary	Death rate per 1,000 of population.	Non- Pulmonary	Death rate per 1,000 of population.	TOTAL.	Death rate per 1,000 of population.	
St. Nicholas'	3,587	8	2.23	3	0.83	11	3.06	8	2.23	..	..	8	2.23	11
St. Thomas'	14,870	8	0.54	9	0.60	17	1.14	5	0.34	3	0.20	8	0.54	19
St. John's	15,947	39	2.45	20	1.25	59	3.70	18	1.12	7	0.44	25	1.56	63
Stephenson	19,962	40	2.00	19	0.95	59	2.95	25	1.25	6	0.30	31	1.55	65
Armstrong	16,506	47	2.84	17	1.03	64	3.87	25	1.51	8	0.48	33	1.99	75
Elswick	13,080	23	1.76	13	0.99	36	2.75	14	1.07	8	0.61	22	1.68	37
Westgate	16,126	29	1.80	18	1.11	47	2.91	14	0.86	7	0.44	21	1.30	45
Arthur's Hill	10,094	12	1.19	6	0.59	18	1.78	11	1.09	2	0.19	13	1.28	10
Benwell	20,404	54	2.64	23	1.13	77	3.77	32	1.57	7	0.34	39	1.91	81
Fenham	12,279	15	1.22	5	0.40	20	1.62	8	0.65	2	0.16	10	0.81	19
All Saints'	18,127	49	2.70	28	1.54	77	4.24	34	1.87	7	0.39	41	2.26	79
St. Andrew's	13,129	30	2.28	11	0.84	41	3.12	17	1.29	1	0.08	18	1.37	48
Jesmond	10,872	10	0.92	11	1.01	21	1.93	4	0.37	8	0.73	12	1.10	10
Dene	12,988	14	1.08	7	0.54	21	1.62	10	0.77	2	0.15	12	0.92	21
Heaton	14,935	18	1.20	14	0.94	32	2.14	17	1.14	5	0.33	22	1.47	32
Byker	18,240	31	1.70	23	1.25	54	2.95	21	1.15	7	0.39	28	1.54	73
St. Lawrence	20,510	44	2.14	22	1.07	66	3.21	32	1.56	9	0.44	41	2.00	96
St. Anthony's	17,508	43	2.45	30	1.71	73	4.16	31	1.77	3	0.17	34	1.94	93
Walker	17,136	32	1.86	24	1.40	56	3.26	17	0.99	9	0.52	26	1.51	60
City	286,300	546	1.91	303	1.06	849	2.97	343	1.20	101	0.35	444	1.55	937

NOTE.—Deaths occurring in Public Institutions have been allocated in every case to the Wards in which they resided.

The Tuberculosis Dispensary.

The number of new patients entered on the register was 937.

468 of them were sent direct by general practitioners, 269 were referred to the dispensary by the visiting nurses, 32 by the School Medical Officers, and the remainder came from various sources, *e.g.*, Royal Victoria Infirmary 51, Citizen's Service Society, etc.

348 had been notified previously, and the balance, 589, of whom 146 were notified by the Dispensary Medical Staff, were suspects, or contacts of known cases. Of the last mentioned category 144 had lived with patients known to have bacilliferous sputum, and 93 were home contacts of persons certified to have died of pulmonary tuberculosis.

351 were 'insured persons,' and 496 were dependents of 'insured persons,' leaving only 90 of the uninsured classes.

In respect of these new patients, after observation it was found that 64 per cent. were not suffering from active tuberculosis.

2,627 patients visited the dispensary during the course of the year, and registered 8,043 attendances, an average of over 3 per patient.

The total number of complete physical examinations made was 2,241, including 876 males, out of 2,658 attendances; 585 females, out of 1,663 attendances; and 780 children out of 3,722 attendances; giving an average of 1 every 3 visits for adults, and every 5 for children.

26·5 per cent. of the cases had been verified bacteriologically—42·5 per cent. of the males, 35·0 per cent. of the females, and only 2·2 per cent. of those under 15 years of age. The details are tabulated below :—

Sputum Examination.	Number of Patients who attended the Dispensary during the Year 1925.				Ex-Service Men (included in the Total).
	Total.	Males.	Females.	Under 15 years of age.	
Bacilli found	697	430	246	21	176
Bacilli <i>not</i> found	1930	570	457	903	210
TOTAL	2,627	1,010	703	924	386

Sputum Positive Cases.—The number of living sputum positive cases on the Dispensary Register on January 1st, 1925, was 671; during the year 148 of these died, and also 64 patients in whose sputa tubercle bacilli were found in the course of the year.

213 cases were added to the register, making a total at the end of the year of 672, consisting of 439 males, (including 182 ex-service men), 220 females and 13 children.

531 of these patients visited the Dispensary during the year. Of the 141 who failed to attend 99 were reported by the nurses to be working or fit for work; 26 were moderately well, while 10 had relapsed, and were mostly confined to bed; in respect of the remaining 6 no information could be obtained.

In 4 instances Sanatorium treatment had been refused, but 82 patients had been treated at Barrasford Sanatorium.

The year of the original booking of all the sputum positive cases is given in the following table :—

YEAR PATIENTS FIRST ATTENDED DISPENSARY.

(CASES WITH TUBERCLE BACILLI IN SPUTUM.)

1913.		1914.		1915.		1916.		1917.		1918.		1919.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
15	9	15	16	11	11	14	11	16	12	25	7	22	11

1920.		1921.		1922.		1923.		1924.		1925.		Total.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
51	10	29	11	38	18	62	19	54	42	93	50	445	227

“ Negative ” Cases.—The records of the patients in respect of whom no tubercle bacilli have been found in the sputum are filed separately from those of the sputum positive cases, and 1,930 patients in this category attended during the year. This number included 1,010 males (210 ex-Service men) and 920 females. The preponderance of male cases was nothing like so pronounced as in the sputum positive group, and it is noteworthy that children were much more numerous, constituting 46·8 per cent. of the total as opposed to 3 per cent. of the bacteriologically verified cases. While the majority of these “ negative ” cases were “ suspects ” or “ contacts,” 837 had been notified as suffering from some form of tuberculosis. The details are set out below :—

“ NEGATIVE ” CASES WHO ATTENDED THE DISPENSARY DURING 1925.

Notified.	Males.	Females.	TOTAL.
Lungs	267	213	480
Glands	71	77	148
Abdominal	32	42	74
Joints	28	21	49
Bones	21	12	33
Spine	15	11	26
Skin	5	6	11
Disseminated.....	6	2	8
Genito-Urinary	7	..	7
Meninges	1	..	1
Not Notified	557	536	1093
TOTAL	1,010	920	1,930

The year in which the various patients first attended the Dispensary is given in the subjoined table:—

YEAR PATIENTS FIRST ATTENDED DISPENSARY.

1913		1914		1915		1916		1917		1918		1919	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
14	10	10	9	16	9	16	10	25	13	27	17	26	30

1920		1921		1922		1923.		1924.		1925.		TOTAL.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
54	50	50	58	84	68	100	98	189	197	399	351	1010	920

Relations with other Departments, etc.—The vast majority of new cases entered on the Dispensary Register were referred either directly by the local doctors (50 per cent.) or else by the visiting nurses after notification (28 per cent.).

In many cases it was considered that more appropriate treatment or advice could be given elsewhere, and 273 patients were given letters of recommendation to other departments, hospitals or charitable agencies.

Thus 124 cases were referred to the Voluntary Tuberculosis Care Council, 17 to the Citizens' Service Society, 37 to the United Services Fund, 23 to the Principal School Medical Officer, 9 to the Dental Hospital, 5 to the Maternity and Child Welfare Department, and smaller numbers to the Royal Victoria Infirmary, the Poor Children's Holiday Association, Maternity Hospital, Board of Guardians, etc.

Every effort is made to verify each notified case by bacteriological means, and during the year 1,375 specimens of sputum were examined at the Dispensary.

Of this number 267 were found to contain tubercle bacilli, while 1,108 gave negative results.

In addition 595 samples of sputum were sent, for examination, to the College of Medicine by the medical practitioners of the City.

Of these 113 proved positive, and 482 negative.

Work of the Nurses.—996 new patients were seen as against 1,023 in 1924, and 11,309 subsequent visits were made, giving a grand total of 12,305 for the year.

2,100 of these visits were paid to ex-Service men.

The number of patients on the Nurses' lists on December 31st, 1925, was 2,332, comprising 882 males (including 320 ex-Service men), 650 females, and 800 children.

In 645 cases tubercle bacilli had been found in the sputum, and special attention has always been paid to these infective cases.

They are visited at least once monthly, and their contacts are kept under the closest possible supervision.

During the year, the names of 1,210 patients were removed from the nurses lists ; this total includes 385 deaths (209 sputum positive and 176 negatives).

Visits to 825 patients were discontinued on the instruction of the Tuberculosis Medical Officer ; of these only 34 were sputum positive cases, while 791 were negatives.

Discontinuation in the sputum positive cases was usually due to the fact that the patient had ceased to live in the City.

In the vast majority of the negative cases the names were removed because there was no evidence of active tuberculosis.

The Work of the Sanitary Inspector.—This officer disinfects houses after deaths or changes of address of consumptives, arranges for the removal and disinfection of phthisical patients' clothing and bedding, and reports on any insanitary conditions existing in the homes of dispensary patients, such as overcrowding, insufficient ventilation, or defective sanitary arrangements.

The details of his work were as follows :—

Houses visited	838
Houses disinfected (total)	753
For patients going to Sanatoria	132
For patients changing their address	83
For patients going to Hospital.....	386
After death	255
Rooms disinfected in above houses	856
Total number of visits	1406

The types of houses disinfected were as follows :—one roomed, 53 ; two-roomed, 209 ; three-roomed, 229 ; four-roomed, 147 ; more than four rooms, 115.

Houses found to have sanitary defects
(including overcrowding) and re-
ferred to the Senior Sanitary In-
specter

210

INSTITUTIONAL TREATMENT.

45 beds were provided at Barrasford Sanatorium for early or moderately advanced cases of pulmonary tuberculosis, 92 beds were available for more advanced or emergency cases at the Sanatorium Pavilions at the City Hospital, Walker Gate, while at Stannington Sanatorium (Private Sanatorium) 30 beds were maintained for the treatment of tuberculous children.

Barrasford Sanatorium.—121 patients (84 men and 37 women) were admitted in the course of the year, including 1 “suspect” sent up for observation purposes ; 11 were suffering from pleurisy with effusion, and of the remainder 19 were classified at the Dispensary as being in Stage I., 58 in Stage II., and 32 in Stage III.

The details as to “insured” and “uninsured” persons, males and females, together with the average length of stay in the institution, are submitted herewith :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM
DURING YEAR 1925.

	In Barrasford Sanatorium on 1st January, 1925.	Ad- mitted during Year.	Persons who completed Treatment during year.			In Barras- ford on 31st Dec. 1925.
			Number.	Total Number of Days.	Average Length of Stay in days.	
Uninsured Males ..	3	8	4	588	147	7
Uninsured Females	4	19	18	2327	129	5
Insured Males	16	76	66	8688	132	26
Insured Females ..	12	18	21	4113	196	9
TOTAL	35	121	109	15,716	144	47

The results of treatment were satisfactory, and the condition of the patients on discharge was as follows :—

RESULTS.	Males.	Females.	TOTAL.
(a) Fit to Work	37	25	62
(b) Improved	21	9	30
(c) Without Improvement	12	4	16
(d) Died in Sanatorium .....	..	1	1
TOTAL	70	39	109

Each discharged patient is visited at frequent intervals by one of the Dispensary Staff and is encouraged to report periodically so that he can be examined and records kept of his condition.

In the next table a summary is given of the condition on December 31st, 1925, of all the patients treated at the Corporation expense since 1908. It will be noticed that most of the earlier cases are returned as dead or untraceable :—

PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM,
AND THE RESULTS.

YEAR.	Number of Patients discharged from Barrasford Sanatorium.	MALES.	FEMALES.	Condition at end of Year 1925.					Total Number of days in the Sanatorium.	Average number of days in the Sanatorium.
				Well, working or fit to work.	Improved or moderately well.	Relapsed.	Dead.	Lost sight of, or left the district.		
1909	55	34	21	2	2	..	39	12	6,260	114
1910	63	40	23	4	5	..	39	15	6,471	101
1911	72	46	26	10	3	..	48	11	6,868	97
1912	67	47	20	6	2	..	40	19	5,396	81
1913	85	58	27	7	1	..	48	29	9,567	112
1914	78	59	19	17	5	..	42	14	9,723	124
1915	74	54	20	11	3	1	38	21	10,803	146
1916	64	45	19	7	2	1	40	14	10,005	156
1917	68	45	23	16	6	1	32	13	10,603	156
1918	89	81	8	22	4	..	46	17	11,926	134
1919	107	85	22	23	8	3	58	15	14,207	133
1920	131	105	26	48	10	5	53	15	17,127	129
1921	112	88	24	32	10	1	61	8	13,544	122
1922	77	58	19	21	11	3	33	9	10,515	136
1923	100	76	24	41	14	5	32	8	14,062	140
1924	94	66	28	43	12	12	24	3	13,254	141
1925	109	70	39	66	23	11	9	..	15,716	144
TOTAL ..	1,445	1,057	388	376	121	43	682	223	186,047	128
Received treatment in previous years ..	92	67	25	23	20	6	37	6	..	..
Nett Cases	1,353	990	363	353	101	37	645	217	186,047	137

The appearance of tubercle bacilli in the sputum indicates that there is active destruction of lung tissue, but it must be recognised that there is always a doubt about any case in which the diagnosis has not been verified bacteriologically.

Accordingly the bacterial history of each patient admitted to Barrasford Sanatorium has been investigated as thoroughly as possible, and the results are tabulated below :—

BACTERIAL HISTORY OF
PATIENTS WHO RECEIVED TREATMENT IN BARRASFORD SANATORIUM.

YEAR.	Persons discharged from Barrasford Sanatorium.			Number who had Tubercle Bacilli found in the Sputum after discharge.	Persons deceased at the end of the year.				Cases who had Tubercle Bacilli in the Sputum and could not be traced at end of Year.
	TOTAL Nett Cases.	Number who had Tubercle Bacilli found in the Sputum.	Number who had not Tubercle Bacilli found in the Sputum.		TOTAL.	Tubercle Bacilli found in the Sputum before or during treatment.	Tubercle Bacilli found in the Sputum after discharge.	No record of Tubercle Bacilli ever found in Sputum.	
1909	55	35	20	2	39	31	2	6	2
1910	63	45	18	3	39	32	3	4	9
1911	67	45	22	6	44	36	4	4	6
1912	63	36	27	10	37	26	6	5	9
1913	81	52	29	3	47	38	3	6	10
1914	74	53	21	2	40	37	2	1	5
1915	73	51	22	3	37	32	3	2	7
1916	63	47	16	3	40	35	3	2	7
1917	64	42	22	5	29	24	3	2	6
1918	83	55	28	4	44	39	2	3	9
1919	102	82	20	4	55	54	1	..	10
1920	127	89	38	3	52	51	..	1	7
1921	106	84	22	4	56	50	3	3	6
1922	64	49	15	2	30	26	2	2	3
1923	95	77	18	1	30	28	1	1	6
1924	84	70	14	..	19	19	..	..	1
1925	89	71	18	..	7	6	..	1	..
TOTAL	1,353	983	370	55	645	564	38	43	103

The very heavy mortality experienced by the bacteriologically verified cases shows how serious is the finding of tubercle bacilli in the sputa of patients of the industrial classes.

STANNINGTON SANATORIUM.

The 30 beds were kept fully occupied throughout the year, and 46 patients completed treatment.

The details appear below :—

CHILDREN WHO RECEIVED TREATMENT IN STANNINGTON SANATORIUM DURING YEAR 1925.

	In Sanatorium on 1st Jan., 1925.	Admitted during the Year.	Persons who completed Treatment during the year.			In Sanatorium on 31st Dec. 1925.
			Number	Total Number of Days	Average length of stay in Days.	
Males	16	25	25	7,828	313	16
Females	14	20	21	4,184	199	13
TOTAL	30	45	46	12,012	263	29

In nearly every case great benefit accrued to the patient, as is shown in the following return :—

	Males.	Females.	Total.
(a) Improved	23	18	41
(b) Without Improvement	2	2	4
(c) Died in Sanatorium .....	..	1	1
TOTAL	25	21	46

SANATORIUM PAVILIONS, WALKER GATE.

The 92 beds were kept fully occupied, and at times there were patients awaiting admission. 336 patients were admitted, and of these 61 were ex-service men. 147, *i.e.*, 43·7 per cent. of the new cases admitted, were female patients, which is the highest proportion of female cases admitted in any year.

Details of the number of patients admitted and the average length of stay in days are given in the accompanying table :—

PATIENTS WHO RECEIVED TREATMENT IN SANATORIUM PAVILIONS
AT THE CITY HOSPITAL, WALKER GATE, DURING YEAR 1925.

	Patients in Hospital on 1st Jan., 1925.	Patients Ad- mitted	Patients who have completed Treatment			In Hospital 31st Dec., 1925.
			Number	Total Number of days.	Average length of stay in days.	
Uninsured, Males	7	51	43	4,301	100	15
Uninsured, Females..	25	112	113	9,682	86	24
Insured, Males	43	138	149	15,711	105	32
Insured, Females	10	35	34	3,594	105	11
TOTAL.....	85	336	339	33,288	98	82

N.B.—13 patients were re-admitted and are counted as 26 admissions.

2 patients were admitted 3 times and are counted as 6 admissions.

Treatment has been on Sanatorium lines, modified to some extent in view of the type of patient; the essentials are the same, however, namely, rest and good food under satisfactory hygienic conditions, with exercise graduated to the patient's tolerance.

Artificial pneumothorax therapy was continued on as many cases as possible; 28 initial operations were performed during the year and periodical refills upon these and the other cases started in previous years were continued at Walker Gate.

Since 1922, 129 cases have received this form of treatment.

89 patients, all of whom were residents of Newcastle, died in the institution; the condition of the other patients on discharge is given in the table below :—

	Males.	Females.	Total.
(a) Fit to Work .....	..	..	..
(b) Improved	90	77	167
(c) Without Improvement	46	37	83
(d) Died in Hospital	56	33	89
TOTAL	192	147	339

Many of those discharged “improved” were fit for light work, while 34 were transferred to Barrasford Sanatorium.

Other Institutions.—Numerous cases of surgical tuberculosis were treated in the general hospitals, *e.g.*, the Royal Victoria Infirmary and the Fleming Memorial Hospital. In addition, 166 patients admitted to the Poor Law Institution (Wingrove Hospital) were notified as suffering from tuberculosis; 138 of these (70 males and 68 females) being lung cases and 28 (19 males and 9 females) suffering from non-pulmonary tuberculosis.

Deaths in Institutions.—215 of the deaths from tuberculosis (167 “lungs” and 48 “other forms”) occurred in institutions. As previously mentioned, 89 patients died in Walker Gate Hospital. 86 patients (70 “lungs” and 16 “other forms”) died in Wingrove Hospital, 21 patients (3 “lungs” and 18 “other forms”) in the Royal Victoria Infirmary, 8 patients (2 “lungs” and 6 “other forms”) in the Fleming Memorial Hospital, and 11 patients in other institutions.

The various activities of the Tuberculosis Section have been summarised, and are set out on the following page, together with the corresponding figures for previous years.

TUBERCULOSIS SECTION.

SUMMARY OF WORK DONE.

	Average for 5 years.		1923	1924	1925
	1913-17	1918-22			
<i>Notifications</i> Total	1013	786	833	812	849
Pulmonary	661	538	544	540	546
Non-Pulmonary.....	352	248	289	272	303
Notified by Disp. Med. Staff..	174	184	170	163	146
<i>Deaths (Corrected)</i> Total	536	469	414	421	444
Pulmonary	382	354	311	322	343
Non-Pulmonary.....	154	115	103	99	101
<i>Attendances at Dispensary</i>	6777	10588	8758	8476	8043
New Patients	899	919	925	954	937
<i>Barrasford Sanatorium</i>					
Admitted.....	74	105	93	99	121
Discharged	74	103	100	94	109
<i>Stannington Sanatorium.</i>					
Admitted.....	58	44	37	41	45
Discharged	52	44	37	41	46
<i>Sanatorium Pavilions, Walker Gate.</i>					
Admitted.....	92	187	211	304	336
Discharged	62	134	153	222	250
Died	23	48	46	63	89
<i>Bacteriological Exams.</i>					
College of Med.....Total	690	604	602	639	595
Sputum—Positive	177	138	107	114	113
Negative	513	466	495	525	482
<i>Dispensary</i> Total	678	1546	1713	1454	1375
Sputum—Positive	151	343	387	298	267
Negative	527	1203	1326	1156	1108
<i>Urine Examinations</i>	586	921	944	936	929
<i>Evening Consultations.</i>					
Attendances	1023	1378	961	888	807
New Patients	99	63	32	47	46
<i>Work of Nurses.</i>					
New Patients	800	632	934	1023	996
Subsequent Visits	5362	11295	11969	11885	11309
Total Visits	6162	11927	12903	12908	12305
<i>Special Inspector's Visits</i>	1560	1016	1145	1300	1406
Houses Disinfected	533	513	687	721	753
Rooms Disinfected	853	578	740	846	856
Sanitary Defects — Houses.....	38	68	109	177	210

BARRASFORD SANATORIUM.

Report of the Medical Superintendent.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

Herewith I beg to submit a report of the work at Barrasford Sanatorium during the year 1925.

No changes of any moment have been made in the clinical or administrative routine of the past, and nothing of any importance has been introduced into the realm of the treatment of pulmonary tuberculosis. The efficiently-run Sanatorium remains the only means of improving the general health of the sufferer from pulmonary tubercle, and by prolonged maintenance of good general health, the body is in some cases able to deal satisfactorily with the local condition. But the healing of tuberculous disease is a very slow process.

As in the past, the library has been widely used by the patients. It has been added to by gifts from the British Red Cross Society and by private contributors.

The X-ray plant has continued to be used extensively for the purposes set out previously (1924). During the year 117 radiographs of chests were completed and filed, and very numerous radioscopic examinations were made in connection with the artificial pneumothorax work.

Late in the year 2 lamps of the Quartz Mercury Vapour type were installed for the provision of Ultra Violet Rays.

Admissions.—There was a considerable increase in the number of admissions during 1925—40 more than in the year previous. The increase is mainly on the male side, only 8 more females being sent in than in 1924. Newcastle Corporation sent in 22 more cases than in the 12 months prior. Other Authorities sent approximately the same number of cases as in the past.

42 of the cases admitted during the year had been in the Sanatorium previously, and were disposed as follows :—

Newcastle Corporation	23 out of 121
Gateshead Corporation	9 out of 48
Northumberland County Council	5 out of 14
West Hartlepool Corporation.....	2 out of 27
Armstrong Whitworth Employés'	
Medical Fund	1 out of 2
Tynemouth Corporation	2 out of 12

ADMISSIONS TO THE SANATORIUM DURING 1925.

Authority.	Male.	Female.	Total.
Newcastle Corporation	84	37	121
Northumberland County Council.....	14	..	14
Gateshead Corporation	48	..	48
Tynemouth Corporation	8	4	12
West Hartlepool Corporation	19	8	27
South Shields Corporation	2	..	2
Tynemouth Union	1	2	3
*Armstrong, Whitworth's Employés'			
Medical Fund	1	1	2
Private Cases	5	5	10
Durham County Council .....	..	2	2
	182	59	241
During 1924	150	51	201
During 1923	155	52	207
During 1922	212	55	267
During 1921	220	60	280

* Including one case transferred from the Newcastle Corporation and counted as an admission.

The number of cases discharged was also increased, but not to the extent of the admissions. There was no summary dismissal from the Sanatorium during the year.

On the whole, the Medical Superintendent's recommendations to patients as to the length of treatment, were accepted willingly.

2 cases died in the Institution during the year, 1 tuberculous case and 1 non-tuberculous.

10 cases were discharged soon after admission, at periods varying from 8 to 38 days, as they appeared to be too ill to justify being retained in the Sanatorium, and 6 of these are known to have died.

DISCHARGES FROM THE SANATORIUM DURING 1925.

Authority.	Male.	Female.	Total.
*Newcastle Corporation	70	39	109
Northumberland County Council.....	16	..	16
Gateshead Corporation	48	..	48
Tynemouth Corporation	7	4	11
West Hartlepool Corporation	19	5	24
South Shields Corporation	2	..	2
Durham County Council .....	..	..	..
Tynemouth Union	1	2	3
†Armstrong, Whitworth Employés' Medical Fund.....	2	1	3
Private Cases	6	6	12
	171	57	228
During 1924	152	46	198
During 1923	167	52	219
During 1922	229	65	294
During 1921	212	62	274

* Including one case discharged twice and counted as two cases, and one transferred from Newcastle Corporation to an Armstrong Whitworth E.M.F. bed and counted as a Newcastle Discharge.

† One case discharged twice and counted as two discharges.

SUMMARY OF MOVEMENTS OF PATIENTS DURING 1925.

Authority.	In residence night of Dec. 31st, 1924.	Admitted during 1925.	Dis-charged during 1925.	In residence night of 31st Dec., 1925.
Newcastle Corporation	35	121	109	47
Northumberland County Council..	2	14	16	..
Gateshead Corporation.....	10	48	48	10
Tynemouth Corporation	2	12	11	3
West Hartlepool Corporation	2	27	24	5
South Shields Corporation .....	..	2	2	..
Durham County Council .....	..	2	..	2
Tynemouth Union .....	..	3	3	..
Armstrong. Whitworth Employés' Medical Fund.....	2	2	3	1
Private Cases	4	10	12	2
	57	241	228	70

The particulars of patients and the results of their treatment, which are set out later, are based on the discharged, *i.e.*, completed cases.

Of the total 228 cases discharged from the institution during the year, 28 cases were judged not to be suffering from pulmonary tuberculosis, and they are excluded from the particulars and results of treatment which follow later, and which refer only to the 200 cases of definite tuberculosis of the lungs or pleuræ. The X-ray plant has been of the utmost use in aiding the diagnosis, being the means of checking, by pictorial record, the opinion based in the first place on the history given by the patient, and the results of physical and bacteriological examinations. Only 5 cases sent from the Newcastle Dispensary were judged to be not suffering from tuberculosis of the lungs.

Some details of the 200 definite cases discharged during the year are appended :—

SOCIAL STATUS.

	Male.	Female.	Total.
Single	67	34	101
Married	80	12	92
Widowers	5	..	5
Widows .....	..	2	2
TOTAL	152	48	200

AGE.

Years.	Male.	Female.	Total.
16—20.....	12	9	21
20—25.....	27	22	49
25—30.....	31	8	39
30—35.....	20	..	20
35—40.....	20	5	25
40—45.....	21	2	23
45—50.....	13	1	14
50—55.....	8	1	9
	152	48	200

OCCUPATIONS OF 152 MALE CASES :—

Labourers	14
Engineering and Metal Workers.....	21
Miners	12
Clerks	10
Railway Employés	5
Bar Managers and Barmen	5
Motor Drivers and Mechanics.....	5
Platers	4
Joiners	4
Shop Assistants	4
Blacksmiths	3
Tramway Motormen and Drivers	3
Ex-Sailors and Soldiers	3
Draughtsmen	2
French Polishers	2
Cabinet Makers	2

Fish Hawkers	2
Butchers	2
Drillers	2
Tailors	2
Armature Winders	2
Loco. Firemen	2
Brass Moulders and Finishers	2
Insurance Agents and Inspectors	2
Warehousemen	2
Wiremen.....	2

and one each of the following occupations :—

Coachbuilder, Errand Boy, Electrician, Boot Shop Manager, Chemical Worker, Gas Worker, Gas Inspector, Shoemaker, Painter, Hairdresser, Sugar Boiler, Builder's Yard-man, Traveller, Salesman, Groom, Butler, Sign-writer, Bottle-Corker, Glass Bottle Maker, Mosaic Worker, Ship's Steward, Foreman Drainer, Steelworks Chemist, School Teacher, Dairyman, Crane Driver, Mason, Gardener, Packer, Patternmaker, Carter, Horse-keeper, Stage Hand.—Total, 152.

OCCUPATIONS OF 48 FEMALE CASES :—

Housewives	19
Domestic Servants	5
Shop Assistants	5
Nurses.....	4
Tailoresses	3
Telephonists.....	2
Clerks	2
School Teachers	2

and one each of the following occupations :—

Barmaid, Messenger, Charwoman, Photographic Printer and Developer, Waitress, Mother's Help.—Total 48.

The average duration of treatment of all cases was 114·4 days. The average period of residence of the tuberculous cases only was 125·35 days, and that for the 104 Newcastle tuberculous cases alone was 150·18. The 109 (tuberculous and non-tuberculous) Newcastle patients averaged a period of treatment of 144·9 days, the 70 males staying 134·34 and the females 163·9. The longest stay made by any completed case was 632 days, and the shortest was 1 day. The average number of beds occupied daily during the year was 71·37 (68·6 in 1924), the average for males being 49·18 (48·1 in 1924), and that for females 22·19 (20·5 in 1924). The total number of patient days was 26,052, divided into male 17,952, and female 8,100.

Below is given an analysis of the average number of beds occupied, and the number of patient days :—

Authority.	Average Beds occupied daily.	Patient Days.
Newcastle Corporation	44·2	16,153
Northumberland County Council	3·27	1,195
Gateshead Corporation.....	11·3	4,075
Tynemouth Corporation	2·27	829
West Hartlepool Corporation	5·64	2,059
South Shields Corporation	0·53	196
Durham County Council	0·21	78
Tynemouth Union	0·57	210
Armstrong, Whitworth Employés' Medical Fund	1·41	516
Private Cases	2·36	741

The diagnosis of pulmonary tuberculosis was confirmed bacteriologically either before admission or during residence in 173 cases ; 135 males and 38 females. 39 patients—32 males and 7 females, were apparently without tubercle bacilli in the sputum, and 4 males and 11 females said they had no expectoration.

957 sputum examinations were made at the Sanatorium during the year, and of these 214 were positive as regards the presence of tubercle bacilli, and 743 were negative.

941 complete examinations of the chest were made during the year, together with routine examinations of the larynx and the urine on admission of the patients, and subsequently when necessary.

Treatment.—Nothing has been changed in the routine of treatment. The greatest emphasis has been laid on securing rest in bed when the bodily temperature has been seen to show any departure from the normal, and in the majority of cases showing pyrexia on admission, a normally ranging temperature has been secured by this means. In such a strength-reducing disease as pulmonary tuberculosis abundance of rest is essential, and cases with normal temperatures rest in the recumbent position for several periods daily, which allows the resisting powers of the body as a whole to be recruited, and further, patients are urged to avoid any exertion which accelerates the rate of respiration and thereby subjects the diseased foci in the lungs to stress and strain. In this way, local rest to the lung is obtained best, apart from operations of pneumothorax, thoracoplasty, etc., which in suitable cases secure physical immobilization. By these means, and a full, generous diet, the needs of the consumptive are best served. Graduated exercise, morning and afternoon, is undertaken by all patients who are without raised temperatures. The walks are prescribed by the Medical Superintendent to each individual patient daily, according to requirements and conditions. Treatment by tuberculin has been abandoned finally. There is no more unsuitable bar to recovery from active pulmonary tuberculosis than a persistently raised temperature.

Artificial pneumothorax treatment has been employed to a considerable degree as previously. 13 cases had had a pneumothorax induced before admission, and 45 other cases were considered suitable for this treatment. Of this number, 1 declined the treatment, and in 11 the attempts were unsuccessful on account of adherent pleuræ (10), and temperamental instability (1), leaving 33 cases induced in the Sanatorium, and 46 cases in all. In one of these cases an artificial pneumothorax was induced for a non-tuberculous condition—a pulmonary abscess following aspiration pneumonia—but it was not effective. The number of tuberculous cases in which this form of treatment was used is therefore 45, 32 actually induced in the Sanatorium, while 13 induced previous to admission were maintained. In connection with all the cases, 433 inductions of air into the pleural space were done. Of these 45 cases, 20 were males and 25 females; 20 were right-sided cases, 24 were left-sided, and 1 was a simultaneous bilateral minimal artificial pneumothorax. In 22 cases the lung was free and could be collapsed freely, but in the 23 others adhesion between the lung and chest wall made the collapse only partial. 14 of the cases developed an effusion on the side of the pneumothorax, but only one of these was purulent.

In 31 cases the treatment was effective in controlling symptoms, 19 being discharged as fit for work, and 12 very much improved. All these cases were afebrile, and with cough and spit reduced to a minimum. 14 cases were not benefitted, and the pneumothorax was abandoned, as was necessary in 2 of those 14 cases complicated by an effusion, referred to previously. 1 of the 45 cases was in Stage 1, 19 were in Stage 2, and 25 belonged to Stage 3.

Of all the forms of treatment available for those patients who fail to respond to routine sanatorium treatment, that of artificial pneumothorax is of by far the most general value. It is the fashion largely to reserve this treatment for the advanced case, but there seems to the writer to be a strong reason for its use in cases with earlier lesions, in an endeavour to obtain firm healing of the disease by physical rest whilst it is still comparatively limited, and probably before the formation of pleural adhesions, which are the great bar to success in the advanced case, and in many of the intermediate ones.

One case of old-standing pulmonary tubercle in which much fibrosis had occurred, was treated by phrenic evulsion. In this case, most distressing paroxysmal cough, which caused very frequent vomiting, was relieved by the operation, which has the effect of paralysing one side of the diaphragm, and thus leads to the compression of the base of the lung on the side operated upon. In this case an artificial pneumothorax could not be induced. The phrenic evulsion was kindly performed for me by Mr. R. J. Willan, F.R.C.S., of Newcastle-upon-Tyne.

The amount of work completed in the Light Department during the short period before the close of the year was not great, though it was sufficient to prove its value in certain directions. Two cases of non-pulmonary tubercle improved considerably both in general health and in the state of the local disease. In those forms of tuberculous disease where the condition is pleural and unaccompanied by active disease in the lungs, treatment by Ultra Violet Rays seems very valuable, especially in relieving pain. It is also of much use in the

treatment of obscure aches and pains in limbs, of which patients in the Sanatorium seem often to complain, especially in winter. Its place in the treatment of active tuberculous disease of the lungs is not established, but it seems to be contra indicated, as radiation has been the apparent cause of febrile reactions in several cases.

Results of Treatment.—The immediate results of treatment were excellent, 150 of the 200 definite cases improving very considerably in general health. During the period of treatment, however, only very rarely is any marked improvement in the local condition observed, and on discharge this remains a constant menace in the absence of a sheltered life, which is so rarely the lot of the patient of the industrial class. Many patients, moreover, take little heed of advice as to after-care.

Details of 200 definite cases :—

	Male.	Female.	Total.
Fit for Work.....	47	28	75
Improved	66	9	75
Stationary.....	22	9	31
Worse	17	1	18
Died in Sanatorium.....	..	1	1
	152	48	200

Results of 104 Newcastle definite cases.

	Male.	Female.	Total.
Fit for Work.....	32	25	57
Improved	21	5	26
Stationary.....	6	4	10
Worse	9	1	10
Died in Sanatorium.....	..	1	1
	68	36	104

The weight records of the 200 definite tuberculous completed cases and those of the 28 non-tuberculous, are as follows :—

		Gained up to 7 lbs.	Gained 7 to 14 lbs.	Gained over 14 lbs.	Remained station- ary.	Lost up to 7 lbs.	Lost over 7 lbs.	Not weighed on discharge.	Total.
200 definite cases.	Gained weight..	65	77	21	..	..	..	..	163
	Lost weight ....	..	..	..	..	23	4	..	27
	Stationary ....	..	..	..	6	..	..	..	6
	Not weighed on discharge....	..	..	..	..	..	..	4	4
Total.....		65	77	21	6	23	4	4	200
28 non tuber- culous cases.	Gained weight..	16	4	2	..	..	..	..	22
	Lost weight ..	..	..	..	..	3	..	..	3
	Stationary ....	..	..	..	2	..	..	..	2
	Not weighed on discharge ...	..	..	..	..	..	..	1	1
Total.....		16	4	2	2	3	..	1	28

The majority of cases showed considerable extent of disease on admission. The following classification has been used to define the extent of tuberculous disease :—

Group 1.—Disease limited to small areas of one lobe on either side, which in the case of affection of both apices, does not extend beyond the spine of the scapula or the clavicle, or in the case of affection of the apex of one lung, does not extend below the second rib in front.

Group 2. Disease more extensive than in Group 1, but affecting at most the whole of one lobe.

Group 3. All cases of greater extent than Group 2, and all those with considerable cavitation.

When extent of disease is considered in these terms, it appears that :—

10 cases fell into Group 1.

84 cases fell into Group 2.

105 cases fell into Group 3.

(1 case was only in 1 day, and was therefore not classified.)

Only 91 of the 200 definite cases were found to have normal temperatures during the whole course of their residence, 109 patients therefore being feverish at some or other time of their treatment in the Sanatorium, and spending amongst them 4,648 days in bed.

Afebrile throughout Treatment.	Febrile on Admission, Afebrile on Discharge.	Febrile Intermittently	Febrile throughout Treatment.	Afebrile on Admission, Febrile on Discharge.
91	51	15	41	2

As has been pointed out before, the range of the temperature is one of the cardinal points in the handling of the tuberculous lung patient. A raised temperature calls for rest in bed—a persistent pyrexia, in spite of rest in bed, is of very bad significance. When it is seen that 109 of the 200 cases were febrile, and that 105 were Stage 3 patients, the immediate results seem very satisfactory.

The efficiency and tone of the Sanatorium owes much to the Matron, to whom I am indebted for her help.

Yours faithfully,

CECIL G. R. GOODWIN,

Medical Superintendent.

Barrasford Sanatorium,

4th May, 1926.

REPORTS OF THE VETERINARY OFFICER
AND INSPECTOR OF PROVISIONS,
AND OF THE INSPECTOR UNDER THE FOOD AND
DRUGS ACTS (SENIOR SANITARY INSPECTOR).

V.—FOOD.

BOVINE TUBERCULOSIS.
INSPECTION OF MEAT AND PROVISIONS.
INSPECTION OF FOOD AND DRUGS.

BOVINE TUBERCULOSIS, AND THE INSPECTION OF MEAT AND PROVISIONS AND FOOD AND DRUGS.

TUBERCULOUS MILK.

29 samples of milk were reported by the Bacteriologist to contain Tubercle Bacilli. One of these was a check sample, so that 28 different supplies were concerned.

One of the samples was from the herd of a cow-keeper in the City, 8 were from farms in the County of Northumberland, 3 from farms in Durham, and 15 from farms in Cumberland.

Of the 28 herds concerned, 3 were tuberculin-tested, and in each case one or more cows reacted. In one instance, a farm in Cumberland, as many as twenty reactors were found in a herd of 27 cows, and six of these showed clinical signs of tuberculosis of the udder.

In 22 cases the herds were examined clinically, and in 20 of these cows were excluded as affected. In two instances, no animals could be found showing any signs of disease, though a check sample from one of these (taken early in 1926), was subsequently reported positive.

In the remaining 3 cases the Bacteriologist's report was somewhat doubtful. Check samples were taken in two of these, and both were reported negative. In the third, the farmer ceased to send milk into the City, and no check sample could be obtained.

The procedure followed is that on receipt of an adverse report on a sample of milk the dairyman is instructed to give the farmer twenty-four hours notice to cease sending milk until his herd has been examined. At the same time the Medical Officer of Health of the

County in which the farm is situated is informed. On receipt of a report from the latter that the herd has been inspected and diseased or suspected cows excluded, the dairyman is allowed to resume the supply from the healthy cows, and a further sample taken as a check.

Prior to the coming into operation, on 1st September, 1925, of the Milk and Dairies Act, 1915, and the Tuberculosis Order of 1925, it was seldom possible to ascertain what action was taken with regard to diseased or suspected cows which had been excluded from the herds. A farmer whose milk supply was stopped usually called in his private veterinary adviser, who furnished a certificate that he had dealt with certain animals, but rarely stated what became of them. Under the new powers, however, the examinations of the herds are carried out by the County Veterinary Officers, who are able to supply definite information as to the disposal of the affected cows.

The following statement shows the percentage of milks found to be tuberculous each year since the institution of the bacteriological tests in 1906.

Year.	Percentage of Samples found Tuberculous.
1907	5.9
1908	3.8
1909	9.0
1910	5.4
1911	3.0
1912	10.4
1913	8.4
1914	6.7
1915	5.8
1916	8.7
1917	3.1
1918	2.9
1919	3.6
1920	6.3
1921	5.5
1922	7.0
1923	4.5
1924	3.2
1925	8.0

Report of the
Veterinary Officer, Inspector of Meat, etc.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I have pleasure in submitting the following Report upon the work of inspection under the Public Health Acts during the year 1925.

**The Dairies, Cowsheds, and Milkshops Orders,
1885-1899.**

Within the City there are 21 cow-keepers, who occupy 33 cowsheds on 23 premises, and possess a total of 337 milch cows. During the year 166 visits were made to the cowsheds and dairies for the purpose of inspecting the buildings, and the conditions as to cleanliness, etc.

Tuberculosis.

By causing the loss of many dairy cows as well as carcasses of cattle and pigs slaughtered for food purposes, this disease continues to exact a heavy annual toll. During the year, in the course of meat inspection, no fewer than 486 animals were on slaughter found affected, necessitating the condemnation in each case of some part or organ. Of the total, in 215 cases the disease was such in extent and distribution as to render the entire carcass and internal organs unfit. The use of the milk for food purposes from twelve cows within the registered cowsheds was prohibited. Of the eight animals removed from the cowsheds prior to the commencement of the Tuberculosis Order of 1925, six were destroyed. The remaining four were dealt with under the Order, the

owner in each case being compensated. As 75% of the amount paid by the Local Authority as compensation is recoverable from the Ministry of Agriculture, it is interesting to note that after deducting expenses, the cost to the Local Authority in respect of the four cows slaughtered amounted to only 38/-.

*Stannington Sanatorium for Consumptive Children and
" Philipson " Farm Colony.*

During the past four-and-a-half years measures have been taken under the direction of the Veterinary Officer (Hon. Secretary to the Stannington " Philipson " Farm Colony) to gradually eliminate tuberculosis from the herd. For the purpose of not only producing (by breeding and rearing on the premises) but also facilitating the maintenance of a tubercle-free herd, besides the production of a clean milk supply, the new farm scheme, commenced about three years ago, has now been practically completed. Commencing with a heavily infected herd, great difficulty was experienced owing to the want of isolation facilities during the transition stages from the old to new buildings. Since the latter have now come into use rapid progress has been made, and it is confidently anticipated that, without occasioning any great loss, the Stannington herd will within the very near future have been built up to consist of nothing but animals which have successfully passed the Tuberculin Test. Undoubtedly, one of the most important of all preventive measures to be considered during the transformation of a tuberculous herd into one free from disease is the exclusion of tuberculous milk. This, regarding the Stannington herd, has so far been successfully accomplished by clinically examining the cows at frequent intervals besides periodically subjecting samples of their milk to the biological test.

TABLE NO. 1.

DISEASED COWS FOUND IN REGISTERED PREMISES WITHIN THE CITY.

Year.	No. of Cow-keepers.	No. of Registered Cowsheds.	No. of Dairy Premises.	No. of Milch Cows in City.	No. of Diseased Cows.				
					Tuberculosis		Other Diseases		Destroyed. (under the Tuberculosis Order, 1925)*
					Of Udder.	Other than Udder.	Udder.	Other than Udder.	
1909	41	..	..	527	5	2	4	1	5
1910	38	41	..	503	1	1	8	..	1
1911	37	44	38	497	1	..	4	..	1
1912	37	44	37	465	2	..	1	..	..
1913	31	43	33	489	2	2	..	..	..
1914	31	43	33	510	1	1	1	..	..
1915	31	43	33	554	3	..	6	..	..
1916	30	44	32	536	2	2	12	..	1
1917	30	44	32	512	1	..	..	..	..
1918	29	43	31	622	..	..	..	..	..
1919	27	41	29	594	..	..	..	..	..
1920	26	40	28	565	..	..	..	..	..
1921	25	38	26	575	..	..	..	..	..
1922	25	39	26	489	..	..	..	..	..
1923	25	39	26	484	2	..	8	..	1
1924	22	34	23	436	3	2	2	..	4
1925	21	33	23	337	9	..	1	..	3*

Anthrax.

During the year the disease was discovered in the carcass of a bullock sent into the City for disposal. The animal had been killed on a farm by one of the farm hands, who, by an error of judgment, had mistaken serious illness for lameness due to injury. The inspection of the carcass and organs was completed by a microscopical examination when anthrax was found to exist. The entire carcass and organs were promptly destroyed and the slaughterhouse was immediately

cleansed and disinfected. Specimens were forwarded to the Ministry of Agriculture and Fisheries, together with a report as required by the Anthrax Order of 1910, the existence of the disease being subsequently confirmed.

TABLE NO. 2.

MICROSCOPICAL EXAMINATIONS.			
Material Examined.	Conditions for which examined.	RESULT.	
		Positive.	Negative.
Milk	Tuberculosis	10	2
Lymph Glands, etc.	Do.	2	—
Blood, Splenic Pulp, Gland Tissue, etc.	Anthrax	1	3
Œsophagus (Sheep)	Sarcosporidia (Balbiania)	1	—
Milk	Streptococci	1	—

Rabies.

During the year under report, two cases of suspected Rabies within the City, as affecting the dog, were reported. Upon examination the animals were found not to be suffering from the disease.

The Public Health (Meat) Regulations, 1924.

These Regulations, made by the Minister of Health, came into operation on the 1st April, 1925. They are designed not only for the purpose of securing the inspection of carcasses of animals slaughtered for human consumption, but also with the object of building up a system by which the inspection of all carcasses shall be carried out at the time and place of slaughter or immediately afterwards, together with the internal organs.

With regard to the sale of meat from stalls, the deposit or exposure for sale or preparation within premises for purpose of future sale, besides the handling and distribution, the Regulations, if duly observed, are likely to secure that meat shall reach the consumer under more hygienic and wholesome conditions than hitherto.

LIVE STOCK AND MEAT SUPPLIES.

At the beginning of the year under report, cattle, sheep and pigs within Great Britain had further increased numerically, as compared with the previous year, by 42,144, 1,108,091 and 629,533 respectively, making a total of 7,058,726 cattle, 21,729,347 sheep and 3,427,166 pigs. These figures indicate that, compared with pre-war conditions, cattle and sheep remain fewer by 34,000 and $2\frac{1}{2}$ millions respectively, whilst pigs have increased by 792,917 or about 30%.

There remains, therefore, considerable room for an increased production of cattle, and particularly sheep, in order to meet the ever-increasing demand for freshly killed meat. In this connection it may be noted that our own county, Northumberland, appears to be playing its part in the process of reconstruction. For example, whilst in 1914, within the geographical county, there were 125,145 cattle and 1,104,643 sheep, there were in 1924 136,343 cattle and 1,075,900 sheep. Although sheep, numerically, have not yet reached the normal there appears every reason to believe that the Northumberland sheep breeders are not slow to realise the necessity for still greater production for, during the process of recovery since the war, Northumberland has held and still holds the reputation of being, as in pre-war days, the greatest sheep breeding county in Great Britain.

In reference to imports, it is interesting to note that, whilst meat, bacon, hams, etc., from over the seas annually, have increased, approximately, from 23 million cwts. in 1914 to 29 million cwts. in 1925, the annual imports of live cattle from countries other than Ireland have increased from 2,234 in 1914 to 81,754 in 1925. In the absence of further consideration one might conclude,

having regard to the increased imports, that the amount of meat available should have been the means of reducing the price to the consumer by about one-half or to about the pre-war level. There appears, however, to be other factors operating which, unfortunately, have the effect of turning the pointer in the opposite direction. For example, during the period of 30 years prior to the war, whilst the population of the United Kingdom had increased by very nearly one-third, cattle had only increased by about one-eighth; sheep and swine, on the other hand, had decreased in numbers to the extent of 6 and 15½% respectively. Owing to live stock production failing to keep pace with the ever-increasing requirements of the population, imports were increasing year by year, but not rapidly enough to entirely fill up the gap created between supply and demand, and thus prevent the gradual increase in prices. Then followed the war with the indiscreet slaughter of not only fat but also many of our best breeding stocks. Within recent years, although, as already pointed out, an appreciable recovery in live stock production within this country has been taking place, it has not been at the rate necessary to meet the still greater demands occasioned by the population within Great Britain increasing from 41,846,000 in 1914 to approximately 43,956,000 in 1925. It should also be observed that some years ago the United States of America was the chief beef exporting country, with the United Kingdom as practically its only market. As the demands within the United States increased, they found themselves compelled to import instead of exporting. South America then became the chief exporting country, whilst the United States became our chief competitor as an importer. Besides the increase in the costs involved in the conduct of business generally, meat traders are now compelled to purchase their home produced goods in

markets and at prices almost wholly controlled by the supplies and prices fixed for imported meat.

Therefore, since our herds do not now enable us to be even 50% self-supporting, it necessarily follows that until such time the Dominion of Canada and Ireland supply cattle for feeding purposes in this country in sufficiently large numbers, the fact that France, Italy and other continental countries have now become large importers of frozen and chilled meat will, no doubt, have an important bearing on the very reasons why we are compelled to pay just exactly twice as much per pound for our meat to-day as compared with the beginning of the year 1914.

TABLE No. 3.

NUMBER OF ANIMALS EXHIBITED WITHIN THE NEWCASTLE CATTLE MARKET.

Year.	Cattle.	Calves.	Sheep.	Swine.	† Dairy Cows.
1887	110,074	8,780	325,473	28,964	—
1897	99,084	7,304	340,382	31,798	—
1908	87,447	8,145	302,608	38,466	—
1909	85,110	6,950	323,780	31,189	—
1910	77,347	6,469	306,703	27,089	—
1911	70,337	5,841	305,418	37,754	—
*1912	48,222	4,646	227,046	32,562	—
1913	63,683	4,455	271,887	27,468	—
1914	55,617	4,376	258,976	26,507	—
1915	53,689	3,677	248,291	25,062	—
1916	52,251	980	248,356	23,796	—
1917	47,906	1,192	216,920	15,474	—
1918	32,948	42	201,071	148	—
1919	33,664	329	145,613	89	—
1920	32,577	2,064	129,606	5,923	—
1921	35,000	1,765	210,000	1,154	—
*1922	21,921	1,432	140,389	16,521	278
*1923	28,823	1,665	138,447	5,545	99
*1924	18,555	453	68,654	15,684	—
1925	31,397	1,394	135,468	3,302	512

* Market closed for some time during each of these years owing to extensive outbreaks of Foot-and-Mouth Disease in the district.

† Milch Cows sold on Fridays within the Cattle Market lairs.

Inspection of Meat and Other Foods.

The number of animals slaughtered within the City for food purposes was 155,464, this being an increase of 6,546 as compared with the previous year.

Of the carcasses and internal organs examined, including those dressed outside and sent into the City for disposal, tuberculosis was found present in those of 486 animals. As there were over 18,000 head of cattle, including 800 cows, slaughtered, and as it is not uncommon to find, upon slaughtering out good average herds, 70 per cent. of the dairy cows affected with tuberculosis, it would appear quite certain that, owing to the present slaughter-house arrangements, a considerable quantity of undetected diseased meat continues to reach the consumer. This state of affairs, whilst recognised as undesirable, is inevitable, and cannot be altered except by the adoption of a system which provides for the slaughtering of all food animals within centralised modern abattoirs in which :—

- (a) the animals may be inspected prior to slaughter; and
- (b) the carcasses may be inspected at the time of slaughter, or immediately afterwards, together with the internal organs.

A total of $479\frac{1}{4}$ animal carcasses, together with 1,329 lbs. of meat (excluding offal, etc.) were condemned and destroyed as being unfit for human consumption, as compared with $251\frac{3}{4}$ animal carcasses and 5,628 lbs., of meat condemned and destroyed the previous year.

Of the $479\frac{1}{4}$ carcasses, 220 and 2 quarters (215 carcasses and 22 quarters) were condemned on account of tuberculosis as compared with $90\frac{3}{4}$ (84 carcasses and 27 quarters) condemned for that disease out of the previous year's total of $251\frac{3}{4}$ carcasses. It will be observed, therefore, that not only were 228 more carcasses (beef, mutton, veal and pork) condemned during 1925, but that there were, for tuberculosis alone, 130 more condemned than during the previous year.

The number of "parts and organs" condemned on account of tuberculosis shews a decrease as compared with the previous year, due to the fact that during the early part of 1924 three dairy herds at Spital Tongues were completely slaughtered out on account of foot-and-mouth disease when, upon making a complete examination of the carcasses within the slaughter-houses, tuberculosis was found to exist in 75% of the cases.

TABLE NO. 4.
ANIMALS SLAUGHTERED ON LICENSED PREMISES WITHIN THE CITY.

YEAR 1925.	1924.	1923.	1922.	1921.
Horses 2,244	2,710	1,487	888	1,131
Cows 795				
Heifers.... 10,403				
Bulls 304	18,486	16,941	16,284	15,740
Bullocks .. 6,984				
Calves 3,763	4,348	3,945	2,847	3,221
Sheep 94,950	70,788	69,190	88,902	91,951
Pigs 36,021	51,284	31,720	30,281	17,819
Total Animals ... 155,464	148,918	123,283	139,202	129,862

TABLE NO. 5.

Cattle, Calves and Pigs Slaughtered within the City. (See also Table No. 4.)	Number of Animals found Diseased, Unsound or otherwise unfit for Human Consumption.		*Number of Animals found Tuberculous.	
	Whole Carcasses Condemned.	Parts or Organs Condemned.	Whole Carcasses Condemned.	Parts or Organs Condemned.
Year 1925.	Year 1925.			
Cows 795	74	49	62	43
Heifers 10,403	51	62	44	41
Bulls 304	..	7	..	7
Bullocks 6,984	32	55	24	27
Totals 18,486	157	173	130	118
Calves 4,348	49	..	3	..
Pigs 51,284	159	257	82	153

* The figures representing the numbers of animals found tuberculous on slaughter do not necessarily indicate the total number of animals affected with disease, because under the present slaughter-house system it is impossible to guarantee that all those slaughtered are subjected to inspection.

TABLE No. 6.

CARCASSES OF BEEF CONDEMNED WITHIN THE CITY DURING THE
PAST SIXTEEN YEARS.

Total Condemned.		Numbers condemned on account of Tuberculosis.	Percentage Tuberculous.
Year.	Carcasses.	Carcasses.	Per Cent.
1910	116	110	94·82
1911	88	79	89·77
1912	79	73	92·40
1913	92	89	96·73
1914	83	70	84·43
1915	96	88	91·66
1916	109	103	94·49
1917	98	92	93·87
1918	230	182	79·13
1919	306	267	73·0
1920	198	171	86·36
1921	90	78	86·66
1922	85	79	92·94
1923	69	58	84·05
1924	66	61	92·42
1925	157	130	82·80

NOTE.—The above refers to whole carcasses and quarters, but does not indicate the total animals found tuberculous, and therefore does not include those carcasses in which only the organs or parts were found diseased and condemned. See Table 5.

TABLE No. 7.

NUMBER OF VISITS AND INSPECTIONS OF PREMISES DURING THE YEAR 1925.

Slaughter Houses.	Central Markets.			Meat Shops.		Fish Shops.		Provision Shops.		Fruit Shops.		Quayside.		Cold Stores.	Goods Stations (Fish Docks).	Food Preparing Factories.	Restaurants.	Bakeries.	Stalls.
	Meat and Provisions.	Fruit and Vegetables.	Fish.	Wholesale.	Retail.	Wholesale.	Retail.	Wholesale.	Retail.	Wholesale.	Retail.	Wharves and Vessels.	Fish Market.						
7,834	385	304	263	2,994	777	104	11	59	22	8	4	407	2	10	3	1	16	4	

Imported Foodstuffs.

During the year 1925, some 217 vessels, carrying foodstuffs from Denmark, Holland, Canada, America and Australia, arrived at the Quayside, as compared with 184 vessels during the year 1924. 407 visits were made to the wharves and vessels alongside, 1,289 packages containing meat, etc., being opened and examined. Regarding these visits, eight were in response to official notices received from the Customs House concerning foodstuffs detained for inspection and certification.

Imported meat arriving within the City by rail is subjected to inspection and supervision within wholesale shops and cold storage depots.

Foreign Meat, etc., Arriving by Vessel.

Fresh Meat (Carcasses, etc.).

5,855 Pork, 293 Sides, 1,187 Veal, 25 Lamb and 2 casks of Beef.

Offal (Packages).

Pigs.—2,302 Feet, 1,167 Maws, 53 Tongues, 1,754 Heads, 10 Plucks, 1 Chitterlings, 26 Sausage Casings.

BEEF.—15 Sausages, 2 Tripe, 7 Udders.

VEAL.—7 Plucks.

MUTTON.—9 Casings.

HORSE.—2 Casings (condemned).

Frozen Meat (Carcasses, etc.).

MUTTON.—32,236 carcasses, 550 quarters and 300 sides.

MUTTON.—(Packages) 30 Legs, 30 Shoulders, 15 Loins, 120 Mixed Cuts.

LAMB.—18,484.

BEEF.—28,655 fore and hind quarters.

BEEF.—(Packages) 8,820 Boneless, 3,790 Crops, 70 Rounds, 63 Loins, 62 Chucks, 365 Skirts.

Offal (Packages).

BEEF.—1,186 Livers, 504 Tails, 240 Tongues, 71 Kidneys, 300 Tripe, and 25 Cheeks.

MUTTON.—144 Hearts, 143 Sweetbreads, 35 Kidneys.

LAMB.—241 Hearts.

Salted Meat.

PORK.—90 barrels.

Scrap Meat.

5 boxes (re-exported).

Other Goods (Cases, etc.).

52,657 American Bacon and Hams, 547,237 Sides Danish Bacon, 22,299 Tinned Meats, 97 Sausages, 25 casings and 8 barrels Rinds.

TABLE NO. 8.

NUMBER OF VESSELS AND ORIGIN, ARRIVING WITH FOOD.

Denmark.	Holland.	Norway.	America.	Canada.	Australia.
96	71	8	5	31	6

Exported Foodstuffs.

The number of horses slaughtered within the City, for the purpose of the carcasses being exported for consumption on the Continent, was 2,244 as compared with 2,710 slaughtered the previous year. The decline in the volume of this trade during the past twelve months appears quite in harmony with the fact that whilst there has recently been a shortage of horses available for slaughtering purposes there has been a continued increase in the quantity of meat exported from South America to the Continent of Europe.

Total Weight of Meat and Other Foodstuffs Condemned.

The approximate total weight of meat and other foodstuffs condemned during the year was 67 tons 18 cwts. 3 qrs. 1 st. 11 lbs., comprising :—

	tons.	cwts.	qrs.	sts.	lbs.
Beef, Mutton, Veal, Pork	56	14	1	1	9
Offal, Provisions, etc.	11	4	2	—	2
	67	18	3	1	11

Slaughterhouses.

During the year there were 101 separate premises licensed for slaughtering purposes. These consist of five groups and a number of separate establishments in various parts of the City. Seven of the licensed premises are used exclusively for the purposes of horse slaughtering. In addition to the above, there are two establishments near the river licensed as knacker's yards. For some years the use of several of the centrally situated slaughter houses has been authorised from time to time by short period licences only. The provision of markets and abattoirs, as a combined scheme, to meet the requirements of a large and growing district is at present under consideration. The present slaughter-house arrangements have long been recognised as quite inadequate, either for the purposes of meat inspection or humane slaughtering.

Humane Slaughtering.

During recent years public attention has been directed by those interested in the protection of animals to the question of humane slaughtering. In order to secure uniformity throughout the country the methods of killing should, if possible, be defined and dealt with by compulsory legislation. During the year, experimental tests of the various methods of slaughter were

arranged and carried out at the Co-operative Society's Lime Street Abattoir and reported upon by the Veterinary Officer. In order to obtain reliable information as to the various methods of slaughter in their relation to the condition of dressed carcasses, whether intended for curing purposes or otherwise, it is necessary to be aware of the many possible factors involved, including the condition of the animal at the time of slaughter, the time elapsing after stunning before bleeding takes place, besides the efficiency and method of bleeding whether stunning or pithing has been performed or otherwise. It is held by many meat traders, including bacon factory proprietors, that by using mechanically operated instruments for the purpose of killing, bleeding is retarded, thus having a detrimental effect on the market value of the meat, besides rendering it impossible to properly cure bacon and ham. There are others who have adopted the humane methods objected to and hold that their products, including bacon and ham, are the very best that reach the market. In the experimental tests carried out within the City, it was found that the method of killing has little or no bearing on the general appearance of freshly-dressed carcasses or the brightness, firmness or general commercial qualities of the meat when cut. From observations made, one could arrive at no other conclusion than the following:—If of a hundred head of cattle slaughtered, four different methods of killing (ordinary poleaxe, Greener's killer, captive bolt pistol, and Jewish) were adopted, one in each lot of 25, and the dressed carcasses after being sectioned into quarters or smaller joints were submitted to inspection, it would be found impossible to distinguish the various quarters or joints and state with any degree of accuracy the method by which any of the animals concerned had been killed.

TABLE No. 9.

POULTRY, GAME, FISH, FRUIT AND PROVISIONS, ETC., DESTROYED AS BEING UNFIT FOR HUMAN CONSUMPTION DURING THE YEAR 1925.

Cause of Unfitness.	Poultry and Game.	Fish.	Fruit and Vegetables.	Provisions, &c.
Unsound and Unwholesome.	*129 Fowls.	lbs. 50 Black Jack.	lbs. 84 and 16 cases Apples.	84 lbs. Confectionery
	36 Pigeons.	168 Cod.	56 and 4 " Oranges.	1,783 Eggs.
	1 Duck.	224 Codling.	61 " Pears.	
	2,362 Ptarmigan	42 Findon Haddocks.	150 chips Brambles.	TINNED GOODS.
		84 Fish (mixed).	11 crates Spinach.	112 tins Milk.
		70 Gurnards.	10 tons Turnips.	9 " Pears.
		28 and 2 cases Haddocks.	6 " 5 cwts. Potatoes.	5 " Peaches.
		224 Herring.	10 Tomatoes.	2 " Pineapples.
		4,304 Halibut.	602 Brussel Sprouts.	123 " Tomatoes.
		802½ Plaice.		11 " Brawn.
		69½ Salmon.		96 lbs. Corned Pork.
		49 Sole.		1,566 " Corned Beef.
		26 Trout.		1,123 " Lunch
		36 Whiting.		Tongue.

* 2 Coccidiosis, 2 Tuberculosis.

TABLE
CARCASSES, &c., DESTROYED AS BEING UNFIT FOR

	Carcasses, &c.					Lungs.				Hearts.			
	Beef.	Veal.	Mutton.	Pork.	Horse.	Sets Ox.	Sets Sheep.	Sets Pig.	Sets Horse.	Ox.	Sheep.	Pig.	Horse.
Tuberculosis	130 + 21 qrs.	3	..	82 + 1 qr.	..	142	..	32	2	18	..	6	..
Anthrax	1	..	..	..	..	..	..	..	..	..	..	..	..
Swine Fever .....	..	..	..	38	..	..	..	..	..	..	..	..	..
Swine Erysipelas .....	..	..	..	1	..	..	..	..	..	..	..	..	..
Actinomycosis .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Pyrexia	4 qrs.	..	3	3	..	..	..	..	..	..	..	..	..
Septicæmia	1 + 4 qrs.	5	5 + 2 qrs.	2	..	..	..	..	..	..	..	..	..
Pyæmia	1	1	2	..	..	..	..	..	..	..	..	..	..
Mastitis	3	..	1	..	..	..	..	..	..	..	..	..	..
Jaundice .....	..	..	..	1	..	..	..	..	..	..	..	..	..
Fatty Degeneration .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Sarcoma	1	..	..	..	..	..	..	..	..	..	..	..	..
Angioma .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	1	..	1	1	..	3	..	105	2	..	..	..	..
Pleurisy	2 qrs.	..	2 qrs.	1	..	4	..	4	..	..	..	..	..
Pericarditis	1	..	..	..	..	..	..	..	..	4	..	..	..
Peritonitis	1	..	1	1	1	..	..	..	..	..	..	..	..
Nephritis .....	..	1	..	..	..	..	..	..	..	..	..	..	..
Cirrhosis .....	..	..	..	..	..	..	..	..	..	..	..	..	..
Oédema	2 + 2 qrs.	..	4	1	1	..	..	..	..	..	..	..	..
Abscesses	90 lbs.	..	..	1	1 qr.	7	5	1	..	..	..	..	..
Arthritis .....	..	1	½ leg	1	..	..	..	..	..	..	..	..	..
Rachitis .....	..	..	..	3	..	..	..	..	..	..	..	..	..
Parasites (distomatosis, cysts, &c.) .....	..	..	1	..	..	10	40	2	..	..	..	..	..
Emaciation	4	1	24	4	..	..	..	..	..	..	..	..	..
Asphyxia .....	..	..	1	..	..	..	..	..	..	..	..	..	..
Imperfectly Bled, Congestion, &c. ....	..	8	31 + 3 qrs.	15	..	2	1	3	2	1	1	5	2
Immaturity .....	..	2	..	..	..	..	..	..	..	..	..	..	..
Traumatism	4 qrs. + 64 lbs.	1	1 qr. + 180 lbs	..	..	..	..	..	..	..	..	..	..
Died in Transit .....	..	..	1	1	..	..	..	..	..	..	..	..	..
Unmarketable and Unwholesome	1	..	..	1	..	2	..	..	..	2	..	..	..
Decomposition	3 + 22 qrs. + 844 lbs.	25 +4 qrs.	23 + 8 qrs.	2 + 8 qrs. + 151 lbs.	..	9	..	..	..	..	4	..	..

NOTE.—Two carcasses of Pork and four Pig Heads from

No. 10.

HUMAN CONSUMPTION DURING THE YEAR 1925.

Kidneys.		Livers.				Heads.				Plucks.			Ox Tongues.	Pig Tongues.	Ox Tripe.	Horse Casings.	Cow's Udders.	Pig Maws.	Sheep Sweetbreads.	Salted Beef.	Salted Pork.	Calf Feet.	
Ox.	Pig.	Ox.	Sheep.	Pig.	Horse.	Ox Tails.	Ox.	Sheep.	Pig.	Calf.	Calf.	Sheep.											Pig.
..	..	58	..	12	1	..	40	..	122 + 8 halves	..	..	..	53	..	..	..	..	..	..	..	..	..
..	
..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
..	
..	
..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..
..	..	1	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..
..	4	..	..	..	..	..	..	..	..	..
..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	45	3	8	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
..	1	..	..	..	..	..	..	..	..	..
2	..	20	3lbs.	..	..	..	1	..	1½	..	..	..	..	..	..	..	..	..	..	..	..	..
..	
4	..	140½ + 55 lbs.	8	7	4	..	..	..	..	..	..	4	9	..	..	..	..	..	..	..	..	..
..	1	..	..	..	..	..	..	..	..	..	..
2	6	1	1	4	1	..	..	..	..	..	..	1	1	6	..	..	..	..	..	..	..	..
..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	
2	..	2	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
135 + 40 lbs.	..	29 + 320 lbs.	2 + 80 lbs.	12	34	..	108	38	47	46	2	4	27 + 64 lbs.	873 lbs.	2 brls	24 cwts	605 lbs. + 9 cases	6 cwts	3 cwts	4

Rotterdam are included in the above Table under the heading " Tuberculosis."

Reports, Etc.

The following were prepared during the year 1925 :—

1. Special Reports to the Health Committee on
 - (a) “ Humane Slaughtering of Animals ”; and
 - (b) “ Demonstration on various Methods of Slaughtering.”
2. Paper on “ The Elimination of the Tuberculous Cow.” Read before the Congress Meeting of the Royal Sanitary Institute, held at Newcastle-upon-Tyne.

Yours faithfully,

THOMAS PARKER, F.R.C.V.S,
Veterinary Officer.

Town Hall,

Newcastle-upon-Tyne,

24th July, 1926.

FOOD AND DRUGS ADULTERATION, Etc.

Total Samples.—The number of samples of all kinds obtained for analysis during the year was 1,131 (against 1,258 in 1924). For details see table on page 211A.

Of this total, only 614 were submitted for analysis to the Public Analyst, the remainder being milk samples which, on being tested in the Health Department, appeared to be genuine.

Informal Samples (included in the foregoing total). 248 samples were obtained. By this means the character of goods sold in any particular locality is fairly well ascertained at a small cost, and with a minimum of time. In case of any contravention further samples are obtained in accordance with the Sale of Food and Drugs Acts.

Milk Samples.—Milk again takes premier position, the number of samples being 877. 63 of these were certified to be below the minimal limits fixed by the “Sale of Milk Regulations, 1901,” whilst 1 contained boric acid to the extent of 2·9 grains per pint.

Samples not Genuine, etc.—The percentage of all samples not genuine to the total number taken was 6·63 (compared with 7·23 for the previous year), and the percentage of non-genuine milk samples to the total number of milk samples obtained was 7·30 (as against 7·13 in 1924). The total number of samples taken was at the rate of 3·95 per 1,000 of the population (estimated) of the City for the year 1925. This is in excess of the number suggested by the Ministry of Agriculture (viz., 3 per 1,000 of the population).

Milk Adulteration.—Of the 64 milk samples not genuine, 15 were deficient in non-fatty solids, 44 in milk fat, and 4 in both. The remaining sample contained boric acid (as above).

The percentage of fat deficiency varied from 1·6 to 53·3 (the average being 11·85), and of solids not fat from 0·7 to 15·0 (average 6·1).

“Appeal to Cow” Samples.—15 of the samples were taken at farm or byre after seeing the cows milked; 10 of these proved to be genuine and 5 deficient.

It is felt that these “appeal to cow” cases will ultimately be productive of much good in securing a clean and genuine supply of milk to the City. During the visits to the farms, advice is given as to the best methods of dealing with the milk, such as personal cleanliness of the milkers, “stripping” of the cows, placing the entire yield of the herd in one vessel, thoroughly “plunging” or mixing it, and then filling the churns for despatch.

Margarine Act, 1887.—26 samples of margarine (included in the foregoing total of 1,131) were purchased and analysed. All but 2 contained boric acid (as below).

Margarine Warehouses.—29 visits were made to margarine warehouses. Some thousands of packages were examined as regards the proper marking, and all found to comply with the Act.

Preservatives in Food.

Of the total samples taken for analysis (1,131) 24 of margarine and 6 of butter contained boric acid (in each

case below 0·5 per cent.). No action was taken with regard to these.

One sample of new milk contained boric acid to the extent of 2·9 grains per pint, respecting which the vendor was summoned and fined 10/-.

8 samples of cream also contained boric acid in quantities varying from 0·23 to 0·45 per cent.

2 of these were not sold as “ preserved ” cream and, in addition to contraventions as to labelling, one of the samples exceeded the maximal limit (0·4 per cent.) of boric acid. The vendor was cautioned in each case. (Further details are set out in the table headed “ Public Health (Milk and Cream) Regulations, 1912 and 1917,” page 210).

ACTION TAKEN WITH RESPECT TO OFFENCES OTHER THAN
ADULTERATION.

OFFENCE.	No OF CASES.	PROCEEDINGS TAKEN, ETC.
<i>Sale of Food and Drugs Act, 1899, Sec. 9 :—</i> Selling milk from cans not inscribed with the name and address of the vendor.	3	In one instance the offender was summoned and fined £1, the other cases being met by a caution.
<i>Sale of Food and Drugs Act, 1899, Sec. 16 :—</i> Obstructing the Inspector (by preventing his obtaining a sample of milk).	1	Offender summoned and fined £3.
<i>Margarine Act, 1887, Sec. 6 :—</i> Margarine delivered to purchaser in paper not marked “ Margarine.”	1	Offender cautioned.
<i>Dairies, Cowsheds and Milk-shops Order, 1885, Article 6 :—</i> Selling milk without being registered for the purpose.	7	Offenders cautioned.
TOTAL	12	Amount of Penalties, £4.*

* See also * on page 211A.

THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS,
1912 AND 1917.

MINISTRY OF HEALTH TABLE.

1.—Milk and Cream not sold as Preserved Cream.

	(a) Number of samples examined for the presence of a pre- servative.	(b) Number in which preservative was reported to be present, and per- centage of preservative found in each sample.
Milk	349	1 (sample No. 625) contained boric acid, 2·9 grains per pint. Vendor summoned and fined 10/-.
Cream	4	2 (samples Nos. 830 and 831) contained boric acid, 0·36 and 0·42 per cent., respectively. In these in- stances, contraventions as to label- ling were disclosed, whilst the latter also exceeded the maximal limit (0·4 per cent.) of boric acid. Vendor cautioned in each case.

2.—Cream sold as Preserved Cream :—

(a) Instances in which samples have been submitted for analysis to ascer-
tain if the statements on the label as to preservatives were correct :—

(1) Correct statements made	4
(2) Statements incorrect	2
	—
	6
	—

(3) Percentage of preservative found in each sample :—

Sample No. 824,	Boric Acid	0·23%
„ 825,	„	0·38%
„ 826,	„	0·28%
„ 827,	„	0·31%
„ 828,	„	0·45%
„ 829,	„	0·45%

Percentage stated on statutory label :—

“ Not exceeding 0·4 per cent.”

(b) Determinations made of milk-fat in cream sold as Preserved Cream :—

(1) Above 35 per cent.	6
(2) Below „ .....	..
	—
	6
	—

(c) Instances where (apart from analysis) the requirements as to labelling
or declaration of preserved cream in Article V. (i) and the proviso in
Article V. (ii) of the Regulations have not been observed 1

Samples taken for Analysis during the Year 1925.

ARTICLE	No. of Samples obtained.			Result of Analysis.			Action taken.				REMARKS.
	Formal.	Informal.	Total.	Genuine.	Not Genuine.	Doubtful.	Prosecutions.	Convictions.	Cases Dismissed.	Cases Withdrawn.	
New Milk	868	9	877	813	64	..	31	26	3	2	In 6 cases (" appeal to cow " samples, etc.) no proceedings were taken, and in the remaining 27 (of the 64 samples not genuine) the vendors were cautioned by order of the Health Committee.
Dried Milk	3	3	3	..	..	..	..	..	..	All complied with the Regulations, as to composition and labelling.
Condensed Milk	1	18	19	17	2	..	1	..	..	1	The 2 samples " not genuine " were deficient in fat 6·6% and 7·8% respectively, the first being obtained informally and the second formally, from one vendor. Proceedings instituted were afterwards withdrawn after consultation with the Medical Officer of Health and Town Clerk.
Butter	21	21	15	..	6	..	..	..	..	The samples returned as " doubtful " all contained undeclared preservative (viz., boric acid—under 0·5%).
Margarine	1	25	26	2	..	24	..	..	..	..
Coffee	9	9	9	..	..	..	..	..	..
Cocoa	2	2	2	..	..	..	..	..	..
Tea	1	1	1	..	..	..	..	..	..
Sugar	2	2	2	..	..	..	..	..	..
Flour	4	4	4	..	..	..	..	..	..
Wholemeal	1	1	1	..	..	..	..	..	..
Corn Flour	2	2	2	..	..	..	..	..	..
" Custard "	1	1	1	..	..	..	..	..	..
Custard Powder	9	9	9	..	..	..	..	..	..
Semolina	7	7	7	..	..	..	..	..	..
Rice	1	1	1	..	..	..	..	..	..
Ground Rice	9	9	9	..	..	..	..	..	..
Self-raising Flour (including " Bun " Flour, etc.)	7	7	7	..	..	..	..	..	..
Blancmange Powder	1	1	1	..	..	..	..	..	..
Baking Powder	11	11	11	..	..	..	..	..	..
Ground Ginger	4	4	4	..	..	..	..	..	..
Ground Almonds	4	4	4	..	..	..	..	..	..
Pepper	11	11	11	..	..	..	..	..	..
Mustard	7	7	7	..	..	..	..	..	..	1 of the samples contained wheat starch, but was labelled as a " mixture."
Vinegar	1	1	1	..	..	..	..	..	..
Egg Powder	2	2	2	..	..	..	..	..	..
Jams and Jellies	6	6	6	..	..	..	..	..	..	The Marmalade, 1 sample of Jam, and 2 of Jelly, contained traces of tin, but in quantities too small to be harmful.
Marmalade	1	1	1	..	..	..	..	..	..
Lard	25	25	25	25	..	..	..	..	..	..	The samples contained nearly 11% and 10% respectively of water, and the attention of the wholesalers was drawn to the matter.
Lard " Substitute "	2	..	2	2	..	..	..	..	..	..
Arrowroot	1	1	1	..	..	..	..	..	..	In 6 instances, contraventions as to labelling were disclosed, whilst 3 of the samples also contained boric acid in excess of the maximal limit of 0·4% ; vendors cautioned. (See also " Public Health (Milk and Cream) Regulations,"—separate table.)
Cream	9	1	10	4	6	..	..	..	..	..
Cheese	2	2	2	..	..	..	..	..	..	The sample " not genuine " (taken informally) was deficient in ethyl nitrate 15·1%. A subsequent sample (taken formally) being genuine, no further action was taken.
Cream of Tartar	8	8	8	..	..	..	..	..	..
Tartaric Acid	8	8	8	..	..	..	..	..	..
Tincture of Rhubarb	2	2	2	..	..	..	..	..	..
Syrup of Rhubarb	2	2	2	..	..	..	..	..	..
Gregory Powder	2	2	2	..	..	..	..	..	..
Paregoric	5	5	5	..	..	..	..	..	..
Sweet Spirits of Nitre	1	3	4	3	1	..	..	..	..	..
Glycerine	3	3	3	..	..	..	..	..	..
Olive Oil	2	2	2	..	..	..	..	..	..
Camphorated Oil	3	3	3	..	..	..	..	..	..
White Precipitate Ointment ..	1	2	3	1	2	..	1	..	..	1	The 2 samples " not genuine " were deficient in white precipitate 41·1% and 13·2% respectively, the first being obtained informally, and the second formally, from the same vendor. Proceedings instituted were afterwards withdrawn by order of the Health Committee, who accepted defendants' explanation and contention that there was no intention to defraud.
TOTALS	883	248	† 1,131	1,026	75	30	33	26	3	4	Amount of Penalties obtained—£62 10s. 0d.*

† Includes 55 samples taken " in course of delivery " (at railway stations, etc.)
In addition, 4 samples (taken for informative purposes only, and not under the Food and Drugs Acts), were submitted to the Public Analyst for examination.

* Total penalties, including those in respect of " offences other than Adulteration," etc. (£4 0s. 0d., see separate table, page 209), £66 10s. 0d.

(d) Particulars of each case in which the Regulations have not been complied with, and action taken :—

Sample No. 826—Vessel in which cream delivered to purchaser not labelled, and no notice posted in shop.

Sample No. 827—Vessels in which cream stored and supplied not labelled.

Sample No. 828— Do. Also amount of boric acid in excess of maximal limit (0·4%).

Sample No. 829— Do. Do.

The vendor in each of these cases was cautioned.

Note.—The other 2 samples sold as Preserved Cream (Nos. 824 and 825) and which contained boric acid 0·23 and 0·38 per cent., respectively, were labelled in accordance with the Regulations.

3.—Thickening substances. Any evidence of their addition to Cream or to Preserved Cream..... None.

4.—Other observations (if any).

All of the samples referred to in this return were also taken under the Sale of Food and Drugs Acts, and are therefore included in the separate return under those Acts.

The Public Health (Condensed Milk) Regulations, 1923.

19 samples of condensed milk were obtained, of which 17 were genuine and in compliance with the Regulations with regard to labelling, the remaining 2 being deficient in fat to the extent of 6·6 and 7·8 per cent. respectively. The first was taken informally, and the other formally, from the same vendor, who was summoned, the case being subsequently withdrawn.

The Public Health (Dried Milk) Regulations, 1923.

3 samples of dried milk were obtained. All proved to be genuine, the samples containing the percentages of fat and of non-fatty solids required by the Regulations, and the equivalent amount of ordinary milk was in all cases at least equal to that stated on the label of the container. The samples were all free from preservative.

BACTERIAL IMPURITY OF MILK AND WATER.

Milk.—372 samples were examined by the Bacteriologist for the presence of tubercle bacilli, which were found in 29, or 8·0 per cent.

Action taken is described on page 187.

184 samples were examined for evidence of excremental pollution, which was found to an undesirable degree in 66, or 35·9 per cent. The vendors and producers were communicated with and warned.

Cleanliness of Milk Churns.—In order to secure as far as possible a thoroughly clean milk supply for the City, 26,929 empty milk churns, awaiting return to the farmers, were examined at the various railway stations in the City, and of this great number only 62 (from 18 different dealers) were found in an uncleansed condition. In each case the offender was warned by the Medical Officer of Health.

It will be seen that this work, which practically occupies two Inspectors one day per week each, is fully justified, for although 1,914 more churns have been examined this year, only 62, as against 54 last year and 95 in 1923, were found uncleansed.

Water.—181 samples were collected from all parts of the City and at the water works, and examined for the presence of *bacillus coli*.

The results are described on page 137.

PREMISES ON WHICH FOOD IS PREPARED.

Bakehouses.—There are in the City 218 bakehouses, of which 32 are factories and 186 are workshops.

These are kept under rigid and systematic supervision, and are generally found in good order. The number of contraventions is small, and these are usually dealt with by the Inspector at the time, or by informal notice or letter.

The number of "domestic" bakehouses, or private dwelling houses in which the occupier makes bread for sale amongst the neighbours, has decreased from 79 last year to 73 in 1925. This is most desirable, as under the most favourable conditions, such a food as bread cannot be safely prepared for sale in a small dwelling house. Domestic bakehouses are under the same supervision as when the business is carried on in an ordinary bakehouse.

Restaurant Kitchens (which include hotels, cafés and dining rooms) number 139. These are also regularly inspected, any insanitary conditions (which as a rule are few) being dealt with as in the case of bakehouses above mentioned. It is satisfactory to report that in neither case has it been found necessary to serve any statutory notices for any contraventions.

Fried Fish Shops.—The number of these decreased from 145 to 139 during the year. For comments see "Offensive Trades" (page 232).

Ice Cream Manufactories and Retail Shops.—During the year 91 applications were received for permission to make and/or sell ice cream, which was refused in 36 cases, in many on account of the fact that the cream was to be made in or sold from dwelling houses. In others, general insanitary conditions, lack of water supply, drainage, facilities for cleansing, and the storage

for sale of vegetables and other goods of a dusty or dirty nature, led to the applications being declined. In many cases where permission was refused it was regarded as a hardship, but a commodity like ice cream is so susceptible to contamination that a high standard must be fixed and rigidly adhered to.

The premises of both manufacturers and dealers are regularly inspected, and it is worthy of note that only a few contraventions of a minor nature have been found, except one where a manufacturer was found to have obtained his ice from a pond. He was interviewed by the Deputy Medical Officer of Health and the Chief Inspector, when he expressed contrition, and although closely watched the offence was not repeated.

The number of manufacturers on the register is 136, and of those who sell but do not make, 155.

Dairies, Cowsheds, and Milk Shops' Order, 1885 ; Article 6, and the Milk and Dairies (Amendment) Act, 1922 ; s. 2.—During the year 78 applications were received for permission to retail milk, 33 being granted, and 45 refused on sanitary grounds. At the close of the year there were 631 retail milk-shops in the City, including 34 belonging to 9 larger dairy companies. Of the total, 98 were shops in which only dairy products and like commodities were retailed, 285 were shops selling other articles, and 38 were hawkers, whilst the remaining 210 sell a sterilised milk in stoppered bottles.

A considerable number of applications for registration as milk purveyors were received from occupiers of dwelling-houses. In all cases these were refused, as it is felt that such an important food stuff cannot with safety to the consumer be kept under such conditions.

While obtaining milk samples on Sundays several young boys were found selling without being registered for that purpose. This was found to be most prevalent in one district of the City, and appeared to be only done on Sundays. They were a most undesirable type, and the practice has now been stopped.

C. RAIMES,
*Inspector under the Sale of
Food and Drugs Acts, etc.*

*Health Department,
Town Hall,
1st July, 1926.*

REPORT OF THE
CHIEF SANITARY INSPECTOR.

VI.—THE HOME AND THE
WORKSHOP.

NUISANCES, HOUSING, FACTORIES AND
WORKSHOPS, Etc.

**NUISANCES, HOUSING,
FACTORIES AND WORKSHOPS,
ETC.**

The following is the
Report of the Chief Sanitary Inspector.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,

I have the honour to submit the following report on the work carried out in my section of the Health Department during the year ended December 31st, 1925.

NUISANCES.

The nuisances reported upon and dealt with during the year numbered 10,426, which is 769 in excess of last year, and were, as in the past, of a most varied nature. There is a slight increase (709, as compared with 690 last year) in the number of choked drains and W.C.'s, and this may be partly accounted for by the amount of overcrowding in the poorer districts. Houses that have been built for one family are now very often occupied by three, with a corresponding increase in the number of children and lack of parental control.

The following are the numbers of notices and letters issued during the year :—

Total number of notices served :—

Informal	6,383
Statutory	294
	———— 6,677
Number of letters sent	2,592
Number of circular letters sent	725
	————
Total	9,994
	————

Overcrowding

still continues to exist to a very great extent, and is a source of very grave concern to the officers of the Department. Many cases have been relieved by the individual efforts of the Inspectors, who are ever anxious to assist occupiers to obtain larger houses, by personally interviewing agents and owners. Notwithstanding their efforts however, there are many serious cases to be dealt with, as the following will show.

In a sublet room which has cubic capacity for two persons there is a family consisting of father, mother and five children, three of the latter being in their teens. The room is so small that all the family must be inside it before a folding bed can be let down, for when the bed is down the door cannot be opened.

In another case one room in a tenement house was found to be occupied by father, mother and seven children, two of the latter being above 20 years of age.

A two-room flat was found to be occupied by two families consisting of 14 persons—five adults and nine children. In one of these cases the father stated that

about bedtime he goes out and walks the street until the elder daughter prepares for bed.

Such cases can unfortunately be multiplied a hundred fold, and it cannot altogether be wondered at that men and women drift to the public house where they can enjoy some little amenities which are denied them in their domestic surroundings.

Increase of Rent and Mortgage Interest (Restrictions) Acts.

During the year 5 applications were received from tenants for certificates that their houses were not "in all respects reasonably fit for human habitation" or otherwise not in a reasonable state of repair. This is a decrease of 6 compared with the previous year. It is felt that if greater advantage was taken of this provision of the law, that it would very materially assist in having repairs carried out by owners more expeditiously than at present obtains. In each case the certificate was granted.

Magisterial Proceedings.—Considering the total number of letters sent out and notices served (9,994), it is worthy of note that it was not necessary in any case to take legal proceedings. In every instance in which proceedings were ordered by the Health Committee, the necessary work was carried out without the issue of a summons. This reflects much credit upon the staff, who at all times, even after proceedings are ordered, are ready with advice and assistance in having the work carried out. For details see page 235.

Conversion of Dry Closets.

It is a pleasure to report that the steady increase in the number of conversions from pail closets, cell privies and ashpits still continues, more especially when it is stated that in the districts where the greatest number exist, the houses are as a rule occupied by the owners, who in many instances are out of employment. Several cases have come to the knowledge of your Chief Inspector where owners have exercised very great self-denial in order to carry out the work required.

This part of the work requires the exercise of very great patience, tact and discretion on the part of your officers, as will be seen when in only 32 cases was it necessary to report with a view to legal proceedings, and in every one of them the work was ultimately carried out before the summons was issued.

During the year 591 privies were removed and water-closets provided instead. Of this number 397 were pail-closets, 1 a privy and ashpit, and 193 "cell" privies, a type of sanitary convenience common to the districts of Benwell and Walker, and an undesirable legacy received when these districts were incorporated with the City.

In addition, 93 "dry" ashpits were removed and the regulation galvanised iron dust-bin provided instead.

In connection with these removals, 731 dust-bins were supplied by the Corporation free of charge.

RETURN OF " DRY " CLOSETS IN THE VARIOUS WARDS OF THE CITY

WARDS.	Total No. Privies.	Pail Closets.	Cell Privies.	Privies and Ashpits.	
				Privies.	Ashpits.
St. Nicholas'	7	7	..	..	..
St. Thomas'	22	22	..	..	..
St. John's	22	22	..	..	..
Stephenson	7	7	..	..	..
Armstrong .....	..	..	..	..	..
Elswick	49	49	..	..	..
Westgate	1	1	..	..	..
Arthur's Hill .....	..	..	..	..	..
Benwell	23	..	21	2	1
Fenham	50	11	11	28	19
All Saints'	101	101	..	..	..
St. Andrew's	32	32	..	..	..
Jesmond	5	..	..	5	5
Dene	1	..	..	1	1
Heaton	29	22	..	7	7
Byker	586	586	..	..	..
St. Lawrence	1260	1258	..	2	2
St. Anthony's	492	475	..	17	16
Walker	568	..	520	48	32
Total in City	3,255	2,593	552	110	83

Atmospheric Pollution.

Great attention has been given during the year to this important part of the work of the Department. The nuisance and injury to health which is caused by dense volumes of black smoke being poured into the atmosphere cannot be overestimated. But unfortunately the law is weak upon the subject. The question is occupying the attention of both Parliament and Local Authorities. The recent report of the Fuel Research Board makes both interesting and useful reading. To take one case alone: their experiments have proved that by low temperature carbonisation one ton of coal will yield 14 or 15 cwts. of smokeless solid fuel, the general use of which would secure a clean and pure atmosphere, would do much to abolish fogs, and conduce in no small degree to the health and well-being of the nation.

In addition to this, other bye-products from the ton would give about 13 gallons of fuel oil, $2\frac{1}{2}$ gallons of motor spirit, and from 3,000 to 4,000 cubic feet of domestic and commercial gas. If such is the case then, even from an economical point of view, the method should be universally adopted.

Glasgow is now carrying out low carbonisation of coal on a large scale at the municipal gas works with great success.

The following table gives details as to smoke inspection :—

No. of chimneys watched.	No. of observations made.	No. of chimneys from which black smoke issued in such quantity as to be a nuisance for periods of over 5 minutes in the aggregate during one hour.	No. of times when smoke issued so as to be a nuisance.	No. of notices served for the abatement of smoke nuisances.		No. of Prosecutions.
				Informal.	Statutory	
99	462	12	20	18	2	..

Atmospheric Pollution Records.—Three observation stations, under the immediate control of the City Analyst, are placed—one on an open site in Keelman's Hospital, City Road, one in Westgate Cemetery, and one in the grounds of the Moor Hospital, in connection with similar stations in other towns, the monthly results from all of which are compared and published by the Advisory Committee for the Investigation of Atmospheric Pollution.

The monthly readings from the Newcastle stations are appended :—

ATMOSPHERIC POLLUTION.—NEWCASTLE RECORDS, 1925.

TOWN MOOR.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.								
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.		
		Tar.	Other Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O_3 .	Chlorine as Cl.	Ammonia as N.H_3 .
January	56·8	0·30	2·36	2·95	2·04	2·50	10·15	1·29	0·72	0·11
February . . .	56·8	0·37	0·97	1·13	0·80	0·68	3·95	0·41	0·28	0·03
March	49·7	0·14	0·80	0·95	1·02	1·19	4·10	0·40	0·35	0·09
April	85·2	0·16	0·74	1·60	1·70	2·56	6·76	0·85	0·48	0·13
May	71·1	0·14	1·34	1·87	2·41	1·99	7·75	1·02	0·51	0·17
June	1·7	0·06	0·96	1·25	0·78	0·78	3·83	0·31	0·16	0·01
July	71·0	0·06	1·20	1·79	4·55	4·40	12·00	1·29	0·26	0·14
August	102·2	0·07	3·23	1·62	2·24	3·48	10·64	1·29	0·37	0·10
September . .	130·8	0·06	0·35	0·48	2·81	4·09	7·79	1·75	0·64	0·18
October	62·5	0·34	1·72	1·56	2·50	3·62	9·74	1·78	0·40	0·06
November . . .	85·2	0·43	0·82	1·49	3·07	5·11	10·92	2·51	0·43	0·20
December . . .	134·9	0·03	0·47	1·39	4·03	4·60	10·52	2·09	1·43	0·11
Total, 12 months . . .	907·9	2·16	14·96	18·08	27·95	35·00	98·15	14·99	6·03	1·33
Average per month . . .	75·6	0·18	1·25	1·50	2·33	2·92	8·18	1·25	0·50	0·11

An average of 8·18 metric tons per square kilometre per month = 7·8 cwts. per acre per annum, or 251 tons per square mile per annum.

WESTGATE CEMETERY.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.								
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.		
		Tar.	Other Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O ₃ .	Chlorine as Cl.	Ammonia as N.H ₃ .
January	55.6	0.61	3.37	3.53	3.44	4.23	15.18	2.31	0.83	0.11
February . . .	69.5	0.74	1.11	2.65	4.31	2.78	11.59	1.74	0.64	0.12
March	62.5	0.03	1.64	2.77	2.50	4.00	10.94	2.14	0.64	0.11
April	111.2	0.58	2.92	4.81	4.23	4.89	17.43	2.89	0.75	0.22
May	90.4	0.40	2.34	4.61	3.43	4.16	14.94	2.17	0.71	0.21
June	1.3	0.24	1.05	2.21	0.40	0.75	4.65	0.35	0.08	0.01
July	55.6	0.22	1.68	2.99	5.11	5.78	15.78	1.56	0.36	0.06
August	105.6	0.86	3.11	3.64	3.81	3.59	15.01	1.74	0.38	0.03
September . .	118.1	0.32	1.86	2.31	3.07	4.02	11.58	2.11	0.50	0.18
October	64.0	0.29	3.39	3.74	2.81	3.71	13.94	2.14	0.33	0.13
November . . .	79.9	0.86	3.92	6.95	3.52	6.24	21.49	3.64	1.22	0.22
December . .	111.2	0.33	2.99	3.49	4.89	5.56	17.26	3.43	1.10	0.11
Total, 12 months . . .	924.9	5.48	29.38	43.70	41.52	49.71	169.79	26.22	7.54	1.51
Average per month . . .	77.1	0.46	2.45	3.64	3.46	4.14	14.15	2.18	0.63	0.13

An average of 14.15 metric tons per square kilometre per month = 13.6 cwts. per acre per annum, or 435 tons per square mile per annum.

CITY ROAD.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.								
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.		
		Tar.	Other Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as S.O ₃ .	Chlorine as Cl.	Ammonia as N.H ₃ .
January	49.3	0.93	7.53	12.35	1.77	3.65	26.23	2.06	0.45	0.10
February . . .	64.9	0.51	13.33	15.55	2.21	4.28	35.88	3.12	0.51	0.10
March	41.5	1.38	2.18	36.75	3.49	8.55	52.35	5.22	0.57	0.08
April	70.1	0.64	5.90	8.04	2.66	4.35	21.59	2.55	0.70	0.21
May	58.4	0.88	6.48	9.26	2.34	3.97	22.93	2.32	0.75	0.19
June	0.8	0.22	3.05	9.00	0.51	1.17	13.95	0.55	0.16	0.04
July	45.9	0.22	6.03	14.17	5.24	8.26	33.92	1.42	0.73	0.18
August	59.7	0.62	7.92	13.15	1.43	5.01	28.13	2.11	0.51	0.21
September . .	77.9	0.56	9.92	15.38	2.49	5.76	34.11	3.02	0.55	0.21
October	45.4	0.13	7.26	9.29	1.36	3.82	21.86	2.07	0.36	0.25
November . . .	57.1	0.84	24.10	20.56	1.48	2.63	49.61	1.47	0.51	0.17
December . .	92.1	0.83	17.13	20.80	2.76	7.00	48.52	4.13	1.11	0.26
Total, 12 months . . .	663.1	7.76	110.83	184.30	27.74	58.45	389.08	30.04	6.91	2.00
Average per month . . .	55.3	0.65	9.23	15.36	2.31	4.87	32.42	2.50	0.58	0.17

An average of 32.42 metric tons per square kilometre per month = 1 ton 11 cwts. per acre per annum, or 996 tons per square mile per annum. This is the highest deposit on this gauge since observations were commenced in 1914. The previous highest was in 1923, when the fall was equivalent to 832 tons per square mile. No comparisons are available as to the Town Moor and Westgate gauges, as these were only established in January, 1925.

TOTAL IN THREE GAUGES IN THE CITY.

MONTH.	RAIN (Millimetres).	METRIC TONS OF DEPOSIT PER SQUARE KILOMETRE PER MONTH.								
		Insoluble Matter.			Soluble Matter.		TOTAL SOLIDS.	Included in Soluble Matter.		
		Tar.	Other Car- bonaceous.	Ash.	Loss on Ignition.	Ash.		Sulphate as $S.O_3$.	Chlorine as Cl.	Ammonia as $N.H_3$.
Total, 12 months ...	2495.9	15.40	155.17	246.08	97.21	143.16	657.02	71.25	20.48	4.84
Total Average per month	208.0	1.28	12.93	20.51	8.10	11.93	54.75	5.94	1.71	0.40
Average per gauge 12 months	832.0	5.13	51.73	82.03	32.40	47.72	219.01	23.75	6.83	1.61
Average per gauge per month	69.3	0.43	4.31	6.84	2.70	3.97	18.25	1.98	0.57	0.13

An average of 18.25 metric tons per square kilometre per month = $17\frac{1}{2}$ cwts. per acre per annum, or 561 tons per square mile.

For comparison with the foregoing, the following returns of sunshine recorded at the Armstrong College, Newcastle, and at Cockle Park, near Morpeth, are given:—

Month.	Armstrong College. Sunshine (hours).	Cockle Park. Sunshine (hours).
January	30·4	50·9
February	59·1	73·4
March	93·3	128·1
April	88·8	143·0
May	64·2	148·9
June	138·4	204·7
July	108·1	183·3
August	96·3	135·1
September	95·0	128·4
October	78·2	120·0
November	44·1	85·5
December	28·0	59·9
Total for year	923·9	1461·2
Average per month	77·0	121·7

CINEMAS, THEATRES, AND OTHER PLACES OF PUBLIC ENTERTAINMENT.

At the end of the year there were in the City 2 Theatres, 3 Music Halls, 27 Cinemas, and 80 miscellaneous places for which music and/or dancing licences are required.

Nine applications for certificates of sanitary fitness (which are required by the Licensing Justices before a licence is granted or renewed) were received, all of which were granted.

All such places are regularly visited during the day, and very frequently at night while the entertainment is in progress.

Inspection of Cinemas.

During the year a systematic inspection and testing of the air has been carried out in 27 cinemas, 2 theatres, and 3 music halls in the City ; and for purposes of comparison in 2 tenemented houses, 2 common lodging

houses, and 1 public hall. This represents a total of 37 premises, involving 84 separate tests, all carried out in the places of entertainment between 5-30 and 10-30 p.m., with one exception, when the test was made during the afternoon house.

The tests have been made with the kata-thermometer, an instrument which was introduced a few years ago, with a view of providing an accurate method of ascertaining the evaporative power of the air.

Up to that time it was generally accepted that while an excess of carbon dioxide in a room or other place where people congregated is undoubtedly an indication that there is not sufficient change of air to remove staleness, or that such place is badly ventilated, it is now recognised that the factor of primary importance is the reaction of the body to its surroundings through the skin surface by means of perspiration.

Dr. Leonard Hill, who introduced this thermometer, defined the conditions essential to any good system of ventilation as being :—

- (1) A moderate air temperature ;
- (2) Adequate air movement ;
- (3) A low percentage of moisture or humidity in the air ;

and has shown that the body is as dependent upon the action of the skin as upon the lungs for throwing off the waste products of life, and that in one hour evaporation gets rid of 700 grains of moisture from the skin and lungs. If the air is stagnant and still, the moisture laden emanations of the body are prevented from escaping by the saturation of the air immediately surrounding the

body, a humid layer of foul air hindering further evaporation and producing a sense of stuffiness and oppression. But if the air around the body is in motion and of the right degree of humidity evaporation goes on continuously, carrying away waste products and at the same time regulating the body temperature.

The measurement of the three essentials of ventilation can of course be made separately, but these involve both time and also three separate instruments. The kata-thermometer enables us to obtain with one instrument a record of the combined effects of all the factors which promote the cooling of the body. The standard fixed is 6 on the dry kata reading and 18 on the wet kata for sedentary workers, and this has been adopted as appropriate for the audience in a place of entertainment.

Of the 37 premises tested the result showed that in 16 cinemas the readings varied from 6.02 to 6.97 on the dry kata, and from 17.86 to 19.5 on the wet kata. In these halls a mechanical system of ventilation is installed, which was in operation when the test was made. These may be classed as first-class halls. In 10 places the readings varied from 4.65 to 5.26 on the dry, and from 16.29 to 17.5 on the wet, and these may be classed as second-class halls. 11 varied from 3.5 to 3.82 on the dry, and from 13.26 to 15.5 on the wet, and may be deemed to be third-class halls.

Further tests will be carried out during the winter months.

Every facility was given and the utmost courtesy shown by the managers in carrying out the tests.

OFFENSIVE TRADES.

Fried Fish Shops still constitute the largest number of offensive trades in the City. There is, however, a reduction of 6, the number now on the register being 139, as against 145 last year. They are all kept under inspection, visits being made at night while the business is in progress, as well as during the day.

The Public Health Act of this year contains some useful and important provisions relating to offensive trades. They are, however, of an adoptive nature.

The need for Bye-Laws dealing with the trades that have been declared to be offensive is very great, and when such are made, and in operation, the standard will be considerably raised, although having regard to the large number of premises in the City the contraventions are few, and of a minor nature.

Other Trades.—One fish frier has been added, whilst one rag and bone dealer and seven fish friers ceased business, and were removed from the Register.

The following offensive trades were carried on within the City :—

Specified in Section 112, Public Health Act, 1875.

Bone Boilers (5), Soap Boiler (1), Tripe Boilers (6).

Declared by Local Authority, confirmed by Local Government Board (in accordance with Section 51 Public Health Acts Amendment Act, 1907).

Rag and Bone Dealers (17), Dealers in Hides and Skins (4), Dealer in blood or other putrescible animal products (1), Fat Melters or Fat Extractors (4), Glue and Size Makers (2), Gut Scrapers (2), Fish Friers (139).

The total number of all offensive trades in the City is now 181.

SUMMARY OF NUISANCES, ETC., FOR THE ABATEMENT OF WHICH NOTICES
WERE SERVED DURING 1925.

Foul privies and ashpits (to replace with water-closets).....	3
Defective "cell" privies in Walker and Benwell (to replace with water-closets).....	213
Foul pail-closets (to replace with water-closets).....	494
Defective waste water closets (to replace with fresh water closets with flushing cisterns, etc.)	6
Foul or defective ashpits not connected with privies (to remove and provide dust bins)	82
Insufficient water-closet or privy accommodation (additional water-closets ordered)	36
Defective or insufficient dust bins	1,382
Defective water-closets	812
Defective pail-closets (to repair, provide new pails, etc.).....	107
Water-closets without water supply	57
Choked water-closets (mostly served on tenants).....	79
Dirty water-closets (all served on tenants)	103
Dirty privies (all served on tenants)	4
Defective drains (to repair, or construct new drains).....	232
Insufficient means of drainage.....	2
Choked drains, etc.	630
Defective or choked sinks, waste pipes, etc.	355
Defective or choked soil-pipes, vent shafts, etc.....	28
Sink waste-pipes not trapped	41
Want of or defective pavement in yards and passages	246
Dirty rooms	83
Dirty bedding.....	3
Damp rooms	498
Overcrowding	42
Dirty yards, passages, stairs, etc.	240
Animals, pigeons, and fowls improperly kept	85
Offensive accumulations	116
Accumulations of manure	48
Want of or defective manure pits	8
Broken roofs and want of or defective or choked spouting	1,190
Want of water	314
Smoke nuisances	20
Want of proper ventilation to rooms (including to floor space), broken window cords in tenements, etc.	330
Structural defects in houses (broken plaster, floors, stairs, etc.).....	2,024
Cisterns supplying water to sinks, etc., dirty or defective.....	7
Slop water or excreta thrown into privy pails, ash-tubs or dust bins ..	3
Filth thrown on yards, streets, etc.	5
Staircases insufficiently lighted	4
Piggeries (defective and unsuitable).....	1
Food manufactured or stored for sale under improper conditions.....	27
Ice cream vendor's name not inscribed on barrow.....	1
Bakehouses—Dirty, etc.	86
Council (and other) Schools—W.C.'s defective	2
W.C.'s and yards requiring limewashing..	1
Drain obstructed	1
Yard pavement defective	1
Dustbins required.....	14
Cellar dwellings illegally occupied.....	1
Fried fish shops—(Want of cleansing)	1
(No receptacles for refuse)	2
Public houses (urinals defective, dirty, etc.)	5
Tenements—Limewashing not done	95
No adequate accommodation for washing of clothes.....	14
„ „ storage of food.....	12
„ „ preparation and cooking of food	6
Carried forward.....	10208

Brought forward.....	10208
Tents, Vans, Sheds, and Similar Structures—	
Ventilation (insufficient means of).....	58
Structural defects	29
Insufficient sanitary accommodation	7
Overcrowding	19
Want of drainage	11
Sites unpaved	2
Want of or defective dustbins	20
Other defects and contraventions of the Byelaws	2
Unclassified minor nuisances	70
TOTAL	10,426

DETAILS RELATING TO CERTAIN WORKS CARRIED OUT IN THE ABATEMENT OF NUISANCES AND TO INSPECTIONS MADE DURING 1925.

Length (in yards) of old drains removed	1,818
Length (in yards) of new drains constructed	3,165
New trapped gullies provided to drains	311
Combined privies and ash-pits removed	
} privies	1
} ash-pits	1
" Cell " privies removed (in Walker and Benwell)	193
Pail-closets removed	397
Defective water-closets removed	53
Water-closets provided (in place of the foregoing privies and defective water-closets removed, also in 23 cases where the accommodation was previously insufficient)	664
Dry ash-pits removed and replaced by galvanised iron dust bins....	93
Dust bins substituted for dry ash-pits where water-closets existed, and provided in cases where privies have been replaced by water-closets	£731
No. of drains tested.....	919
No. of tests of above drains made by smoke and water.....	1,134
No. of inspections from complaints made at office (verbally or by letter).....	2,210
No. of tenement inspections made	16,498
No. of contraventions of Tenement Bye-laws for which notices have been served to obtain remedy	1,476
Inspections of houses made from complaints received outdoors or nuisances discovered in the districts, including a large number of minor nuisances, such as choked drains and dirty yards, the abatement of which was accomplished at the time of visit, and without legal notice	5,016
Inspections to learn if works ordered were in progress.....	11,244
Supervisions of work in progress	3,734
Common yards and courts in the worst localities specially visited on Friday afternoons and Saturday mornings to obtain weekly cleansing	23,655
Inspections after infectious disease.....	1,325
Inspections of milk shops and ice creameries (including retail shops)	1,035
" bakehouses	†1,336
" offensive trades	693
" wholesale margarine warehouses	29
" as to limewashing of tenements	3,528
" of schools	83
" under Housing Act	1,245
Inspection of Cinemas, etc. (day visits, 82 ; night visits, 59).....	141
Tents, Vans, Sheds and similar Structures	194
Supervision of Smallpox " Contacts ".....	1,532
Miscellaneous Visits.....	1,709

‡ Dust bins supplied free by Corporation.

† Including 1,045 inspections made under the Factory and Workshop Acts by the Assistant Inspectors of Workshops.

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE
MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC.,
DURING THE YEAR 1925.

NATURE OF COMPLAINT.	No of Cases.	RESULT.	
		Work done and Nuisances abated without the summonses being applied for.	OTHERWISE DISPOSED OF.
<i>Public Health Acts :—</i>			
Drains defective	1	1	
Roofs and spouting defective	3	3	
Rooms and staircase in dirty condition	1	1	
Cellars used for the preparation of foodstuffs unsuitable on sanitary grounds	1	1	
<i>Public Health Act, 1875, Sec. 36, and Newcastle-upon-Tyne Improvement Act, 1892, Sec. 53 :—</i>			
Houses without sufficient waterclosets ; (defective w.c.'s to be repaired, furnished with adequate water supply, etc.)	1	1	
Foul privies (pail-closets, " cell " privies, etc., to be replaced by water-closets).	32	32	
Foul ashpits (to be replaced by galvanised iron dustbins).	6	6	
<i>Carried forward</i>	45	45	

SUMMARY OF LEGAL PROCEEDINGS ORDERED TO BE TAKEN BEFORE THE
MAGISTRATES FOR THE ABATEMENT OF NUISANCES, ETC.,
DURING THE YEAR 1925.—*continued.*

NATURE OF COMPLAINT.	No. of Cases.	RESULT.	
		Work done and Nuisances abated without the summonses being applied for.	OTHERWISE DISPOSED OF.
<i>Brought forward</i>	45	45	
<i>Newcastle-upon-Tyne Corporation Act, 1911, Sec. 55 :—</i>			
Want of or defective dust-bins for house refuse...	3	3	
<i>Newcastle-upon-Tyne Bye-Laws, Oct., 1866, Sec. 3 :—</i>			
No proper receptacle for manure provided in connection with stables. . .	1	1	
<i>Bye-laws with respect to Tenemented Houses :— No. 28 (a) —</i>			
Limewashing of yards, passages, staircases, etc.	12	12	
Total	61	61	

HOUSING.

That the problem of finding houses is by no means less acute than in previous years is shown by the following return :—

CITY ENGINEER'S CENSUS OF UNOCCUPIED HOUSES.

Class of House.	Nov., 1912	Aug., 1914	Nov., 1918	Nov., 1922	Nov., 1923	Nov., 1924	Nov., 1925
Self-contained	306	137	29	93	99	103	105
Flats (each Flat counted as a separate dwelling).	903	75	..	35	26	22	15
House and Shop combined	68	29	2	9	4	8	6
Tenemented Houses	28	3	..	..	..	..	..
Total	1,305	244	31	137	129	133	126

Effect of Bad Housing.—Reference has already been made to the effect of bad housing and overcrowding upon the public health. It is of interest to summarise some of the points. Speaking generally, the Wards with the highest populations per acre have also the highest death rates. The converse does not always hold, as some Wards, such as Walker, may have small densely-packed areas scattered about among wide stretches of open space or farm land. The rates in these will be relatively high. But where the dwellings are evenly distributed and in good sanitary condition, and the population on area is low, the death rate is also low.

Thus the death rates from all causes are high in Stephenson Ward (16·2), St. Nicholas' Ward (19·2), Walker Ward (15·9), All Saints' Ward (15·7), St. Andrew's Ward (15·5), St. John's Ward (15·4), and low in Dene Ward (8·5), St. Thomas' Ward (9·9), and Jesmond Ward (11·6), which occupy respectively also opposite ends of the scale in regard to quality of housing, and density of population (see tables on pages 53 and 62).

Similarly infantile mortality generally follows the same rule, and the Wards with the highest wastage of child life are again among the most crowded ones. Thus St. John's Ward had an infantile mortality rate of 126 deaths per 1,000 births, and Armstrong 117, as compared with rates of 63 and 64 in Heaton and Jesmond Wards respectively.

Over a period of eighteen years, the deaths per 1,000 births in one room, two room, and three room houses have been respectively 137, 119 and 100, and in the year under report were 108, 106 and 89.

In the case of tuberculosis one sees again the influence of congestion and bad houses in the fact that the highest mortalities for the year were in All Saints' (2·26), St. Nicholas' (2·23), St. Lawrence (2·00), while the lowest occurred in St. Thomas' (0·54), Fenham (0·81), and Dene (0·92). The tuberculosis death rate for the whole City in 1925 was 1·55 per 1,000 population.

Again, about 34 per cent. of the population live in one and two room houses, yet over 40 per cent. of the deaths from consumption were among these.

Housing and Town Planning Acts.

Under these Acts 1,245 inspections have been made, which is a considerable increase over the number recorded last year. Much good work has been accomplished, but not without the exercise of a very large amount of forbearance, tact and discretion.

In the majority of cases complaints of insanitary conditions and dilapidations are fully justified. In others however, minor defects which might quite easily be remedied by the occupier are allowed to become serious before the owner is notified, or a complaint sent to the office. It is also often found that it is only when the owner or agent presses for a reduction in arrears of rent that defects become apparent, as the following case will show.

Towards the end of the year a miner called at the office and complained about a small portion of the yard concrete being broken. This had evidently been caused by chopping firewood upon it. In course of conversation he admitted that he was a "bit back with the rent," and on being pressed for the amount stated that the "bit" was £42 12s. 9d., for which the owner threatened to sue him.

A new Housing Act came into force on 1st July, 1925. A few brief comments are made upon it under new legislation.

Housing.

MINISTRY OF HEALTH TABLE.

YEARS ENDED 31ST DECEMBER, 1924 & 1925.

	1924	1925
Number of new houses erected during the year :—		
(a) Total (including numbers given separately under (b))..	279	1177
(b) With State assistance under the Housing Acts :		
(i.) By the Local Authority	11	554
(ii.) By other bodies or persons.....	..	196
1.—UNFIT DWELLING-HOUSES.		
Inspection :—		
(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).....	3630	3673
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing Consolidated Regulations, 1925.....	252	593
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation.....	10	3
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation.....	2417	2233
2.—Remedy of Defects without service of Formal Notices:—		
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	242	389
3.—Action under Statutory Powers :—		
(a) <i>Proceedings under Section 3 of the Housing Act, 1925 :—</i>		
(1) Number of dwelling-houses in respect of which notices were served requiring repairs.....	261	628
(2) Number of dwelling-houses which were rendered fit after service of formal notices :—		
(a) By owners	237	625
(b) By Local Authority in default of owners.....	..	..
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close.....	..	..
(b) <i>Proceedings under Public Health Acts :—</i>		
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied.....	1914	1216
(2) Number of dwelling-houses in which defects were remedied after service of formal notices :—		
(a) By owners	1890	1213
(b) By Local Authority in default of owners.....	..	..
(c) <i>Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—</i>		
(1) Number of representations made with a view to the making of Closing Orders.....	..	..
(2) Number of dwelling-houses in respect of which Closing Orders were made .....	..	..
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit .....	..	..
(4) Number of dwelling-houses in respect of which Demolition Orders were made.....	..	..
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders .....	..	..

Unhealthy Areas and Improvement Schemes.

In February and April, 1925, the Ministry's approval, almost in toto, of the improvement schemes for the insanitary areas about Lower Pilgrim Street, Prudhoe Street and Liverpool Street was received.

Compensatory houses are in course of completion in Barrack Road (block dwellings of the Sutton type) and Cowgate, along the north-west boundary of the Moor (flats and self-contained houses).

Clearance of the Pilgrim Street area is already well advanced, the tenants of the houses cleared on account of the new bridge scheme having been rehoused in the Rochester Dwellings at Walker.

As soon as the new houses are completed a commencement will be made with the demolition of the rest of the Lower Pilgrim Street, Prudhoe Street and Liverpool Street areas. Meanwhile a detailed survey of the remaining parts of the Central (Quayside) area, including Manor Chare, Wall Knoll, Pandon, and Cox Chare, with houses in City Road, St. Ann's Street and vicinity, has been completed, and progress with other areas has been made.

The Newcastle-upon-Tyne Improvement Act, 1882, Section 32.

No houses were dealt with under this Section during 1925.

Houses Demolished, etc.—9 tenemented houses (comprising 32 holdings), 6 self-contained houses, and 3 common lodging houses (accommodating 106 lodgers), have been demolished (in connection with the New Tyne Bridge) or otherwise have ceased to be used as dwellings, owing to dilapidations, or for conversion to business premises, etc.

Houses built during the Year 1925.—The City Engineer reports that there were 379 self-contained houses and 3 houses in flats built privately during the year under report. In addition, 792 dwellings were provided under housing schemes.

Tents, Vans and Similar Structures.—Since the Bye-Laws have been in force much good work has been accomplished, consisting principally of improved ventilation and cleanliness of the tents and vans. Water supply and sanitary accommodation was provided. Overcrowding, however, exists as it does in other classes of dwellings.

Tenemented Houses.—The number of tenemented houses in the City is 3,487, containing 9,837 holdings, as follows :—

1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms.	Total.
3,234	5,444	1,055	101	3	9,837

Tenement Byelaws.

With the exception of Clause 28 (d) (which provides that an adequate supply of pure water and a sink shall be provided for the use of the occupiers of each floor of a tenemented house) and which does not come into force until May next year, the provisions of the Bye-Laws are being carried out, but not without some little opposition from a certain class of owner, whose one aim appears to be to receive the highest possible rent and to give nothing whatever in return except an empty room or rooms.

The new provisions require to be very carefully administered, and it is satisfactory to report that legal proceedings have not been found necessary in any case.

New Buildings and Sanitary Alterations.—413 plans were examined by the Medical Officer of Health before their submission to the Town Improvement and Streets Committee and, where necessary, suggestions forwarded to the City Engineer for his consideration, as compared with 389 during the previous year.

Common Lodging Houses.

There are at present on the Register 44 Common Lodging Houses, as at the end of last year. Three houses were demolished in connection with the new bridge scheme, whilst three houses were newly registered.

As will be seen from the table which follows lodging houses for men constitute by far the greatest number. There is a real lack of accommodation of this type for single women and married couples. All the houses are kept in a cleanly state, and considering that many of the older ones are in a somewhat bad structural condition, to keep them up to a high standard is no easy proposition.

No serious contravention of the Statutes or Byelaws has been found, those of a minor nature being dealt with by your Inspector without having to report to the Health Committee.

Generally speaking, all the houses are well conducted and kept in a cleanly state, in fact in such a condition as to compare favourably with many houses of a more pretentious nature. The majority of the keepers, it is believed from personal observation, are anxious to comply with the law and do their best for the inmates.

The following summary shows in detail the accommodation as at the end of the year :—

Description of Lodgers.	No. of			Accommodation.			
	Houses.	Single Beds	Double Beds	Married Couples	Single Women	Single Men	Total.
Married couples and single women ...	2	26	15	15	26	..	56
Single women and single men	1	43	..	..	15	28	43
Single men, single women and married couples ..	2	107	13	13	46	61	133
Women only	2	35	..	..	35	..	35
Men only	37	1185	..	..	..	1185	1185
	44	1396	28	28 56 persons	122	1274	1452

The total number of lodgers for which the houses were registered was thus 1,452, as against 1,484 at the close of 1924 (a decrease of 32 in the total accommodation), due to the removal of three houses, the addition of three new houses, and a re-arrangement in two of the others. The average number of lodgers per night was 1,384, the highest and lowest numbers on any one night being 1,407 and 1,354 respectively.

REGISTERED COMMON LODGING HOUSES.

SUMMARY OF WORK DONE AND VISITS MADE DURING THE YEAR 1925.

Number of Houses on the register at the end of the year.....	44
Applications for re-registration (Newcastle Corporation Act, 1911, Sec. 63) ; all granted	47
Houses ceased to be occupied as common lodging houses	3
Inspections made in the day-time	5,250
Inspections made in the night-time	244
Notices served { <i>re</i> washing of bed clothes, 178 }	267
{ <i>re</i> limewashing of houses 189 }	
Contraventions of Bye-laws, etc. :—	
Beds not properly “ aired ” during prescribed hours.....	17
Slops not emptied before 10 a.m.	2
Rooms not cleansed	1
House occupied as a common lodging-house without being registered as such	1
Structural defects in houses	3
Defective water-closets	26
Defective roofs and defective or choked spouting.....	21
Sinkwaste pipe obstructed	1
Choked W.C.'s and drains	23
Dust bins defective or insufficient	10
W.C.'s without a supply of water	1
W.C.'s in dirty condition	2
Unclassified minor nuisances	4
Number of prosecutions	None
Deaths reported (non-infectious disease).....	2
Cases of infectious disease reported (all tuberculosis).....	17

Factories and Workshops.

There are at present on the Register 1,451 workshops, and in addition 148 "domestic" workshops, 286 workplaces, 24 laundries and 218 bakehouses (32 of the latter being factories).

Particulars as to the nature of the various trades, number of inspections, defects found and dealt with, outworkers, etc., are given in the following tables.

During the year 65 lists of outworkers have been received, 19 employers having sent in their lists twice and 27 employers once. Included in the lists were 30 names and addresses of outworkers employed in other towns, and these were forwarded to the Local Authorities of the respective districts, as required by the Factory and Workshop Act.

38 notices as to insanitary conditions in factories and workshops were received from H.M. Inspector of Factories ; 13 of these related to factories (which are not visited by the Inspectors of the Health Department except on receipt of complaint from H.M. Inspector), and 25 to workshops. Many of the latter, however, had been dealt with before receipt of the complaint. All of the complaints were duly investigated, dealt with, and the necessary works carried out, it is satisfactory to note, without legal proceedings being taken.

ADMINISTRATION OF THE FACTORY AND WORKSHOP ACT, 1901, IN
CONNECTION WITH FACTORIES, WORKSHOPS AND WORKPLACES,
DURING THE YEAR 1925.

Home Office Tables.

1.—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.
INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS.
OR INSPECTORS OF NUISANCES.

PREMISES. (1)	NUMBER OF		
	Inspection. (2)	Written Notices. (3)	Occupiers Prosecuted (4)
Factories	333	353	None
(Including Factory Laundries.)			
Workshops.....	8,026		
(Including Workshop Laundries.)			
Workplaces	1,186		
(Other than Outworkers' premises.) ..			
Total.....	9,545	353	..

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS. (1)	NUMBER OF DEFECTS.			Number of Offences in respect to which Prosecutions were instituted. (5)
	Found. (2)	Re-medied. (3)	Referred to H.M. Inspector. (4)	
* <i>Nuisances under the Public Health Acts:—</i>				
Want of cleanliness.....	202	201	..	..
Want of ventilation	7	7	..	..
Overcrowding	2	2	..	..
Want of drainage of floors.....	..	..	..	..
Other nuisances	42	41	..	..
† Sanitary accommodation { insufficient	23	25	..	..
{ unsuitable or defective	62	63	..	..
{ not separate for sexes... ..	10	11	..	..
<i>Offences under the Factory and Workshop Acts—</i>				
Illegal occupation of underground bake-house (s. 101) .....	..	..	..	..
Other offences .....	..	..	2	..
Excluding offences relating to out-work and offences under the Sections mentioned in the Schedule to the Ministry of Health Factories and Workshops (Transfer of Powers) Order, 1921.				
Total	348	350	2	..

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

† Sec. 22 of the Public Health Acts Amendment Act, 1890, is in force. The standard fixed by the Sanitary Accommodation Order (No. 89) of 4th February, 1903, is followed as a model.

OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.

NATURE OF WORK. (1)	Instances. (2)	Notices served. (3)	Prosecu- tions. (4)
Wearing Apparel—Making, etc.	1	1*	None
TOTAL	1	1*	..

* The notice was served upon the *outworker* only, and was duly complied with.

TRADES.

Particulars as to the number and nature of the various trades carried on in the workshops of the City :

TRADES.	Work-shops.	Domestic Work-shops.	Work-places.
Athletic Outfitters, etc.	10	..	..
Bacon Curing, Pickles, etc.	50	1	2
Bags, Waterproofs, etc. (making and repairing)	19	2	2
*Bakehouses	218	..	..
Blacksmiths, Plumbers, etc.	112	..	3
Bouquets and Wreaths (making, etc.).....	11	..	..
Boots, etc. (making and repairing)	120	28	..
Dressmaking, Underclothing, etc.	262	67	..
Drysalters, Cleaning & Packing Fruit, Tea, etc.	33	1	52
Furniture Making, Joiners, etc.....	193	7	..
Harness, etc. (making and repairing)	22	..	..
Jewellery, Watches, etc. (making and repairing)	69	2	..
Laundries.....	24	..	..
Machines and Tools (making and repairing)..	137	3	3
Miscellaneous Warehouses, Stables, etc.....	94	..	74
Painters, Engravers, Photographers, etc.....	82	2	11
Restaurant Kitchens, etc. ....	..	..	139
Tailoring, Shirts, etc.	237	35	..
Totals	1,693	148	286

* Includes 32 " Factory " and 73 " Domestic " Bakehouses.

Council and Other Schools.

Sanitary Inspections.—83 inspections of these schools were made during the year, and at only 6 were any insanitary conditions found. The defects (of a minor nature) were reported to the school authorities, and were all remedied. The details are given on page 233.

Rag Flock Act, 1911.

Eight samples of rag flock were taken under the above Act and submitted for analysis to the Public Analyst.

Two samples (from one firm) yielded respectively 156 and 110 parts of chlorine per 100,000 of flock, the vendor being summoned and fined £2 in each case. In two other samples the maximal limit was only very slightly exceeded (containing 32 parts of chlorine), and a letter of caution was sent by order of the Health Committee. The remaining four samples all conformed to the standard of purity laid down by the Regulations under the Act, which provide that a sample of rag flock must not contain more than 30 parts of chlorine in 100,000 of flock (the amounts of chlorine yielded by these four samples varying from 15 to 30 parts per 100,000 of flock).

Exhumations.

During the year 18 exhumations and reinterments (amongst which were 11 bodies from H.M. Prison), under Home Office orders, were supervised by the District Inspectors. The operations were all carried out during the early hours of the morning or late at night, and were conducted in a sanitary and reverent manner.

NEW LEGISLATION.

During the year two new Acts have been placed upon the Statute Books, viz. :—

The Public Health Act, 1925.

The Housing Act, 1925.

The former contains some most useful provisions, which have been long delayed. One Section more

especially, that relating to “precautions against contamination of food intended for sale,” which, briefly, sets up a standard for all shops and other premises where food is prepared for sale or sold, will go far to prevent contamination of food stuffs. Others dealing with offensive trades, verminous articles and houses, will ultimately be productive of much good.

The Housing Act, 1925, which repeals several enactments and parts of others, is also in force. It is unfortunate that Section 3 (practically a repetition of Section 28 of the 1919 Act), which provides that if a notice is not complied with, “the Local Authority may themselves do the work required to be done” was not amended. If the “may” had been “shall,” it is felt that housing conditions would be much better than they are at present.

The Land Charges Act, 1925, which comes into operation on January 1st, 1926, will also place additional duties on the department in respect to closing orders, demolition orders and repairs to property under the Housing Acts.

I am, Sir,

Your obedient servant,

C. RAIMES,

*Senior Sanitary Inspector,
Inspector of Common Lodging Houses, etc*

Health Department,

Town Hall,

1st July, 1926.

